

Site Design Review for Airpark Business Complex

Date: November 2018

Submitted to: City of Newberg
Planning Department
414 E 1st Street
Newberg, OR 97132

Applicant: Airpark Business Complex, Inc.
P.O. Box 248
Newberg, OR 97132



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Exhibits

Exhibit A: Preliminary Development Plans
Exhibit B: Application Forms
Exhibit C: Property Ownership Information
Exhibit D: Preliminary Stormwater Report
Exhibit E: Architectural Plans and Renderings
Exhibit F: Preapplication Meeting Notes

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Submitted to:	City of Newberg Planning Department 414 E 1 st Street Newberg, OR 97132
Applicant/Owner:	Airpark Business Complex, Inc. P.O. Box 248 Newberg, OR 97132
Applicant's Consultant:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062 Contact(s): Mimi Doukas, AICP, RLA Email: mimid@aks-eng.com Phone: (503) 563-6151
Site Location:	1000 Commerce Parkway
Assessor's Map:	Yamhill County Assessor's Map 3220DD Tax Lot 700
Site Size:	±4.38 Acres
Land Use Districts:	M-2 – Light Industrial Airport Overlay (AO) Subdistrict Stream Corridor (SC) Overlay Subdistrict Bypass Interchange (BI) Overlay

I. Executive Summary

Airport Business Complex, Inc., (Applicant), is submitting this application with the intent to construct a new four-unit industrial building and associated parking improvements on the subject site (Yamhill County Assessor's Map 3220DD, Tax Lot 700), which is located in the Airpark Business Complex. These activities are considered to be appropriate and permitted in the M-2 Light Industrial Zone.

This application includes the City application forms, written materials, and preliminary plans necessary for City Staff to review and determine compliance with the applicable approval criteria. The evidence is substantial and supports the City's approval of the application.

II. Site Description/Setting

The subject site is located within the existing Airpark Business Complex and is approximately 4.38 acres. The subject site currently consists of an existing industrial building used as a school bus maintenance facility, a gravel area used for bus parking, and a paved parking area used as school bus yard; the site also includes vacant land. The subject site is zoned M-2 (Light Industrial District) and is also located within the Airport Overlay (AO) Subdistrict, the Stream Corridor (SC) Overlay Subdistrict, and the Bypass Interchange Overlay (BI) District. Property to the North is zoned Airport Industrial (AI) and Light Industrial District (M-2), containing various industrial and commercial buildings. Property to the East is zoned Light Industrial District and contains a heavily vegetated stream corridor. Property to the west and across Commerce Parkway, a private road, is Sportsman Airpark.

III. **Applicable Review Criteria**

CITY OF NEWBERG DEVELOPMENT CODE

Division 15.200 Land Use Applications

Chapter 15.220 SITE DESIGN REVIEW

15.220.020 Site design review applicability.

- A. **Applicability of Requirements.** Site design review shall be required prior to issuance of building permits or commencement of work for all improvements noted below. Site design review permits shall be processed as either Type I or Type II, as noted below.
 - 2. **Type II.**
 - a. Any new development or remodel which is not specifically identified within subsection (A)(1) of this section.
 - b. Telecommunications facilities.
 - c. Accessory dwelling units.
- C. **Site Design Review Time Limit.** An approved site design review plan intended to be constructed in a single phase shall be valid for one year from the date of the notice of final decision. A building permit must be acquired within this time period or the design review approval shall terminate. The director under a Type I procedure may grant an extension for up to six months if the applicant files a request in writing prior to the expiration of the approval and demonstrates compliance with the following:
 - 1. The land use designation of the property has not been changed since the initial design review approval; and
 - 2. The applicable standards in this code which applied to the project have not changed.

Response: This application involves the construction of a new 4-unit industrial building and associated improvements. Therefore, it is subject to a Type II Design Review.

15.220.030 Site design review requirements.

- B. **Type II.** The following information is required to be submitted with all Type II applications for site design review:
 - 1. **Site Development Plan.** A site development plan shall be to scale and shall indicate the following as appropriate to the nature of the use:
 - a. Access to site from adjacent right-of-way, streets and arterials;
 - b. Parking and circulation areas;
 - c. Location and design of buildings and signs;
 - d. Orientation of windows and doors;
 - e. Entrances and exits;
 - f. Private and shared outdoor recreation spaces;

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- g. Pedestrian circulation;
 - h. Outdoor play areas;
 - i. Service areas for uses such as mail delivery, trash disposal, above-ground utilities, loading and delivery;
 - j. Areas to be landscaped;
 - k. Exterior lighting;
 - l. Special provisions for handicapped persons;
 - m. Other site elements and spaces which will assist in the evaluation of site development;
 - n. Proposed grading, slopes, and proposed drainage;
 - o. Location and access to utilities including hydrant locations; and
 - p. Streets, driveways, and sidewalks.

Response: A Preliminary Site Plan is included in Exhibit A and contains the applicable information listed above. Therefore, the criteria are satisfied.

- 2. Site Analysis Diagram. A site analysis diagram shall be to scale and shall indicate the following characteristics on the site and within 100 feet of the site:
 - a. Relationship of adjacent lands;
 - b. Location of species of trees greater than four inches in diameter at four feet above ground level;
 - c. Existing and proposed topography;
 - d. Natural drainage and proposed drainage and grading;
 - e. Natural features and structures having a visual or other significant relationship with the site.

Response: The preliminary plans in Exhibit A contain the items listed above. Therefore, the criteria are met.

- 3. Architectural Drawings. Architectural drawings shall be prepared which identify floor plans and elevations.

Response: The Architectural Plans and Renderings are included in Exhibit E and show the floor plans and elevations. This criterion is met.

- 4. Landscape Plan. The landscape plan shall indicate:
 - a. The size, species and approximate locations of plant materials to be retained or placed on the site together with a statement which indicates the mature size and canopy shape of all plant materials;
 - b. Proposed site contouring; and
 - c. A calculation of the percentage of the site to be landscaped.

Response: The Preliminary Landscape Plan is in Exhibit A and includes the items provided above. The criteria are met.

5. Special Needs for Handicapped. Where appropriate, the design review plan shall indicate compliance with handicapped accessibility requirements including, but not limited to, the location of handicapped parking spaces, the location of accessible routes from the entrance to the public way, and ramps for wheelchairs.

Response: As applicable, accessibility features are shown on the Preliminary Site Plan in Exhibit A, including ADA compliant parking spaces and accessible routes to and from the entrance. This criterion is met.

6. Existing Features and Natural Landscape. The plans shall indicate existing landscaping and existing grades. Existing trees or other features intended to be preserved or removed shall be indicated on the plans.

Response: The existing conditions of the subject site are shown on the Existing Conditions Plan in Exhibit A. This criterion is met.

7. Drives, Parking and Circulation. Proposed vehicular and pedestrian circulation, parking spaces, parking aisles, and the location and number of access points shall be indicated on the plans. Dimensions shall be provided on the plans for parking aisles, back-up areas, and other items as appropriate.

Response: The existing and proposed vehicular and pedestrian circulation and parking area (with dimensions) are shown on the Preliminary Site Plan in Exhibit A. This criterion is met.

8. Drainage. The direction and location of on- and off-site drainage shall be indicated on the plans. This shall include, but not be limited to, site drainage, parking lot drainage, size and location of storm drain lines, and any retention or detention facilities necessary for the project.

Response: The drainage and stormwater management is shown on the Preliminary Grading Plan and the Preliminary Site Plan in Exhibit A. This criterion is met.

9. Buffering and Screening. Buffering and screening of areas, structures and facilities for storage, machinery and equipment, services (mail, refuse, utility wires, and the like), loading and parking and similar accessory areas and structures shall be shown on the plans.

Response: The Preliminary Landscape Plan in Exhibit A depicts the proposed buffering and screening of areas described above and located on the subject site. This criterion is met.

10. Signs and Graphics. The location, colors, materials, and lighting of all exterior signs, graphics or other informational or directional features shall be shown on the plans.

Response: Exterior signs and graphics are not included with this application. Therefore, this criterion is not applicable at this time.

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11. Exterior Lighting. Exterior lighting within the design review plan shall be indicated on the plans. The direction of the lighting, size and type of fixtures, and an indication of the amount of lighting shall be shown on the plans.

Response: Exterior lighting and information regarding the direction of lighting, size and type is indicated on the materials included with this application in Exhibit E. Therefore, this criterion is satisfied.

12. Trash and Refuse Storage. All trash or refuse storage areas, along with appropriate screening, shall be indicated on the plans. Refuse storage areas must be constructed of brick, concrete block or other similar products as approved by the director.

Response: The trash enclosure is depicted on the Preliminary Site Plan in Exhibit A. This criterion is met.

13. Roadways and Utilities. The proposed plans shall indicate any public improvements that will be constructed as part of the project, including, but not limited to, roadway and utility improvements.

Response: The proposed utilities located within the subject site are included in the Preliminary Utility Plan in Exhibit A, however, public improvements are not required as part of this project. This criterion is met.

14. Traffic Study. A traffic study shall be submitted for any project that generates in excess of 40 trips per p.m. peak hour. This requirement may be waived by the director when a determination is made that a previous traffic study adequately addresses the proposal and/or when off-site and frontage improvements have already been completed which adequately mitigate any traffic impacts and/or the proposed use is not in a location which is adjacent to an intersection which is functioning at a poor level of service. A traffic study may be required by the director for projects below 40 trips per p.m. peak hour where the use is located immediately adjacent to an intersection functioning at a poor level of service. The traffic study shall be conducted according to the City of Newberg design standards.

Response: A Traffic Study is not required for this project because it does not generate an excess of 40 trips per p.m. peak hour. Therefore, this criterion does not apply.

15.220.050 Criteria for design review (Type II process).

- B. Type II. The following criteria are required to be met in order to approve a Type II design review request:

1. Design Compatibility. The proposed design review request incorporates an architectural design which is compatible with and/or superior to existing or proposed uses and structures in the surrounding area. This shall include, but not be limited to, building architecture, materials, colors, roof design, landscape design, and signage.

Response: The proposed design of the buildings is compatible with the existing use in the surrounding area in the Airpark Business Complex as shown in the preliminary plans in Exhibit A and the Architectural Plans and Rendering in Exhibit E. This criterion is met.

2. **Parking and On-Site Circulation.** Parking areas shall meet the requirements of NMC 15.440.010. Parking studies may be required to determine if adequate parking and circulation are provided for uses not specifically identified in NMC 15.440.010. Provisions shall be made to provide efficient and adequate on-site circulation without using the public streets as part of the parking lot circulation pattern. Parking areas shall be designed so that vehicles can efficiently enter and exit the public streets with a minimum impact on the functioning of the public street.

Response: The proposed parking and on-site circulation is detailed on the Preliminary Site Plan in Exhibit A and is designed to meet the provisions included in this section. This criterion is met.

3. **Setbacks and General Requirements.** The proposal shall comply with NMC 15.415.010 through 15.415.060 dealing with height restrictions and public access; and NMC 15.405.010 through 15.405.040 and 15.410.010 through 15.410.070 dealing with setbacks, coverage, vision clearance, and yard requirements.

Response: The proposed setbacks, lot coverage, vision clearance, and yard requirements are shown on the preliminary site plans in Exhibit A, which are in conformance with the requirements listed above. Therefore, this criterion is met.

4. **Landscaping Requirements.** The proposal shall comply with NMC 15.420.010 dealing with landscape requirements and landscape screening.

Response: The overall minimum landscaping requirement is 15%. The Preliminary Landscape Plan in Exhibit A depicts the proposed landscape areas, including the proposed landscape islands every 6 parking spaces, which complies with landscape and screening requirements listed above. This criterion is met.

5. **Signs.** Signs shall comply with NMC 15.435.010 et seq. dealing with signs.

Response: Signs on the subject site will comply with the above provision, as applicable. This criterion will be met.

6. **Manufactured Dwelling, Mobile Home and RV Parks.** Manufactured dwelling and mobile home parks shall also comply with the standards listed in NMC 15.445.075 through 15.445.100 in addition to the other clear and objective criteria listed in this section. RV parks also shall comply with NMC 15.445.170 in addition to the other criteria listed in this section.

Response: The proposed development is for industrial warehouse buildings. This criterion does not apply.

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7. **Zoning District Compliance.** The proposed use shall be listed as a permitted or conditionally permitted use in the zoning district in which it is located as found in NMC 15.305.010 through 15.336.020. Through this site review process, the director may make a determination that a use is determined to be similar to those listed in the applicable zoning district, if it is not already specifically listed. In this case, the director shall make a finding that the use shall not have any different or more detrimental effects upon the adjoining neighborhood area than those specifically listed.

Response: The proposed use, a 4-unit industrial business complex, is considered to be appropriate and permitted within the M-2 light industrial zoning. This criterion is met.

8. **Subdistrict Compliance.** Properties located within subdistricts shall comply with the provisions of those subdistricts located in NMC 15.340.010 through 15.348.060.

Response: The subject property is located with the Airport Overlay (AO) Subdistrict, Stream Corridor Overlay (SC) Subdistrict, and the Bypass Interchange Overlay (BI) Subdistrict. The proposed development is planned to be in compliance with the provisions of these subdistricts as described in further detail in Section 15.302.040 below. This criterion is met.

9. **Alternative Circulation, Roadway Frontage Improvements and Utility Improvements.** Where applicable, new developments shall provide for access for vehicles and pedestrians to adjacent properties which are currently developed or will be developed in the future. This may be accomplished through the provision of local public streets or private access and utility easements. At the time of development of a parcel, provisions shall be made to develop the adjacent street frontage in accordance with city street standards and the standards contained in the transportation plan. At the discretion of the city, these improvements may be deferred through use of a deferred improvement agreement or other form of security.

Response: The site has access via a private street, Commerce Parkway. The site does not front a public street as shown on the Preliminary Site Plan in Exhibit A. Public improvements are not required as part of this project. This criterion is met.

10. **Traffic Study Improvements.** If a traffic study is required, improvements identified in the traffic study shall be implemented as required by the director.

Response: A traffic study is not required as part of this land use application. Less than 40 pm peak hour trips are being created. Per the 10th Edition ITE Trip Generation Manual #130 (Industrial Park), 0.40 trips per 1000 square feet of gross floor area at pm peak hour, thus, the total trips added is 5. Therefore, this criterion does not apply.

Division 15.300 Zoning Districts

Chapter 15.302 DISTRICTS AND THEIR AMENDMENT

15.302.010 Establishment and designation of use districts and subdistricts.

In order to classify, regulate, restrict and segregate the uses of lands and buildings, to regulate and restrict the height and size of buildings, to regulate the area of yards and other open spaces about buildings, and to regulate the density of population, the following classes of use districts and subdistricts are established:

A. Use Districts.

12. M-2 light industrial district.

B. Subdistricts of Use Districts.

1. AO airport overlay subdistrict.

7. SC stream corridor overlay subdistrict.

11. Bypass interchange overlay subdistrict.

15.302.040 Subdistricts.

Subdistricts of each of the use districts may be established. The parent residential district requirements shall apply to those respective subdistricts except those regulations pertaining to lot area per dwelling unit or density.

B. AO Airport Overlay Subdistrict. An airport overlay subdistrict may be applied within any zoning district. The subdistrict shall be designated by the suffix AO added to the symbol of the parent district. The AO symbol shall be added to the zoning map for properties affected by the airport imaginary surfaces. Except as may otherwise be limited by this code, all uses permitted in the parent zone shall be allowable in the AO subdistrict.

Response: This application involves the construction of a 4-unit industrial warehouse business complex and associated improvement, which is a permitted use in the M-2 zone (as shown below in table NMC 15.305.020). Therefore, it is permitted in the Airport Overlay Subdistrict (AO).

G. SC Stream Corridor Overlay Subdistrict. The stream corridor overlay subdistrict may be created within any zoning district. The stream corridor subdistrict is applied to areas which are classified as Statewide Goal 5 resources. The overlay shall be designated by the suffix SC added to the symbol of the parent district. The SC subdistrict provides additional land use regulations which govern properties located within the subdistrict. Where the provisions of the subdistrict are inconsistent with the parent district, the provisions of the subdistrict shall govern.

Response: This application involves the construction of a 4-unit industrial warehouse business complex and associated improvements, which is a permitted use in the M-2 zone (as shown below in table NMC 15.305.020) and is permitted in the Stream Corridor Overlay Subdistrict (SC). It is understood that where the provisions of the subdistrict are inconsistent with the parent district, the provisions of the subdistrict shall govern.

J. Bypass Interchange (BI) Overlay. The bypass interchange overlay shall apply to lands within the city limits and within approximately one-quarter mile of the end of ramps of the East Newberg and Oregon 219 interchanges to the bypass. The bypass interchange overlay may be applied in combination with any zoning district. The overlay shall be designated by the suffix BI added to the symbol of

the parent district. All uses permitted in the parent zone shall be allowed within the bypass interchange overlay except as specifically limited by this code.

Response: This application involves the construction of a 4-unit industrial warehouse business complex and associated improvements, which is a permitted use in the M-2 zone (as shown below in table NMC 15.305.020). Therefore, it is considered to be a permitted use in the Bypass Interchange Overlay (BI). However, the bypass has been constructed and the Bypass Interchange Overlay has been automatically narrowed per the Tier 2 environmental impact statement. Therefore, this application is no longer subject to the requirements of this chapter.

Chapter 15.305 ZONING USE TABLE

15.305.010 Classification of uses.

The zoning use table under NMC 15.305.020 identifies the land uses that are allowed in the various zoning districts. The specific land use categories are described in Chapter 15.303 NMC. The table identifies each use as one of the following:

- P** Permitted Use. The use is a permitted use within the zone. Note that the use still may require design review, building permits, or other approval in order to operate.
- C** Conditional Use. A conditional use permit is required for the use. See Chapter 15.225 NMC.
- S** Special Use. The use is subject to specific standards as identified within this code. The applicable section is included in the last column of the table.
- (#)** A note indicates specific limits on the use. These notes are listed at the bottom of the table.
- X** Prohibited Use. The use is specifically prohibited.

15.305.020 Zoning use table – Use districts.

Newberg Development Code – Zoning Use Table			
#	Use	M-2	Notes and Special Use Standards
500	INDUSTRIAL USES		
501	Traded sector industry office	P	
502	Industrial services	P	
503	Wholesale and industry sales	P	
504	Warehouse, storage, and distribution	P	
505	Self-service storage	P	
506	Light manufacturing	P	
507	Heavy manufacturing	P(34)	
508	Waste-related		
Notes. (34) Limited to expansion or change of existing heavy manufacturing uses.			

Response: This application involves the construction of a new 4-unit industrial warehouse business complex and associated improvements, including improvements to the existing parking

area, as shown above, this is considered to be an appropriate and permitted use in the M-2 zone. This criterion is met.

Chapter 15.340 AIRPORT OVERLAY (AO) SUBDISTRICT

15.340.020 Permitted uses within the airport approach safety zone.

The following uses are permitted:

- A. Single-family dwellings, mobile homes, duplexes and multifamily dwellings, when located greater than 3,000 feet from the displaced threshold and when authorized in the primary zoning district, provided the landowner signs and records in the deed and mortgage records of Yamhill County a hold harmless agreement and avigation and hazard easement and submits them to the airport sponsor and the planning and building department.
- B. All uses permitted in the primary zoning district, provided the use does not create the following:
 - 1. Electrical interference with navigational signals or radio communication between the airport and aircraft.
 - 2. Visual interference which would make it difficult for pilots to distinguish between airport lights or other lighting.
 - 3. Impairment of visibility.
 - 4. Bird strike hazards.
 - 5. Endangerment or interference with the landing, taking off or maneuvering of aircraft intending to use the airport.
 - 6. Population densities which exceed the following limitations:

Response: As previously noted above, this application involves the construction of a new 4-unit warehouse industrial building. As shown in the zoning use table (NMC 15.305.020) above, this is a permitted use in the M-2 zone. Therefore, it is a permitted use in the Airport Overlay Subdistrict. The proposed use will not impact or alter the potential conflicts listed in this section. This criterion is met.

15.340.040 Procedures.

- A. Development Permits. An application for a development permit for any permitted use within the airport approach safety zone or the displaced threshold approach surface zone which is subject to site design review as required by NMC 15.220.010 et seq. and shall include the following information:
 - 1. The boundaries of the airport imaginary surfaces as they relate to property boundary lines; and
 - 2. The location and height of all existing and proposed buildings, structures, utility lines and roads; and
 - 3. A statement from the Oregon Aeronautics Division indicating whether the proposed use will interfere with operation of the landing facility.

Response: The entire site is within the airport overlay transition zone and is not within the approach safety zone or the displaced threshold approach surface zone. The transition zone has an

imaginary plane the extends vertically 1-foot for every 7-feet horizontally extended beyond the edge of the runway. The face of the proposed building closest to the edge of the runway is approximately 300-feet from the edge of the runway. The imaginary plane is at an elevation of approximately 42-feet above the runway elevation. The proposed building is below this imaginary plane. Therefore, this standard is satisfied.

- B. FAA Notice Required. To meet the requirements of Federal Aviation Regulations Part 77, FAA Form 7460-1, Notice of Proposed Construction or Alteration, must be submitted for any construction or alteration of greater height than an imaginary surface extending outward and upward at a slope of 50 to one for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of the airport. Notice is not required for construction or alteration that is shielded by existing structures or terrain as defined in Section 77.15 of Part 77 of the Federal Aviation Regulations.

Response: Existing buildings directly north and south of the proposed building are equal or greater in height than the proposed building. The proposed building is shielded by existing structures. The proposed structure will not adversely affect safety in air navigation. Therefore, this standard is satisfied.

15.340.050 Limitations.

- A. To meet the standards and reporting requirements established in FAA Regulations, Part 77, no structure shall penetrate into the airport imaginary surfaces as defined in this code except as provided in NMC 15.340.030(B).

Response: The proposed improvements do not penetrate into the airport imaginary surfaces as defined in this code as shown on the preliminary plans. Therefore, this standard is satisfied.

- B. High density public uses as defined in this code shall not be permitted in the airport approach safety zone or the displaced threshold approach surface zone.

Response: This project does not propose a high-density public use as defined in this code. Therefore, this criterion does not apply.

- C. Following July 1990, if FAA funds are used by the city to improve or enhance the airport, new structures, buildings and dense uses shall be prohibited in the runway protection zone consistent with federal requirements.

Response: The subject site is not located in the runway protection zone. Therefore, this criterion does not apply.

- D. Whenever there is a conflict in height limitations prescribed by this overlay zone and the primary zoning district, the lowest height limitation fixed shall govern; provided, however, that the height limitations here imposed shall not apply to such structures customarily employed for aeronautical purposes.

Response: The proposed buildings are in conformance with the lowest height limitation fixed governed by this standard with is the height limitation prescribed by the Airport Overlay Zone, as demonstrated on the preliminary plans. Therefore, this standard is satisfied.

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- E. No glare-producing materials shall be used on the exterior of any structure located within the airport approach safety zone.

Response: Glare-producing materials are not proposed to be used on the exterior of any proposed structure located within the airport approach safety zone.

- F. In noise-sensitive areas (within 1,500 feet of an airport or within established noise contour boundaries of 55 Ldn and above for identified airports) where noise levels are a concern, a declaration of anticipated noise levels shall be attached to any building permit or development approval. In areas where the noise level is anticipated to be 55 Ldn and above, prior to issuance of a building permit for construction of noise-sensitive land use (real property normally used for sleeping or normally used as schools, churches, hospitals, or public libraries) the permit applicant shall be required to demonstrate that the indoor noise level will not exceed 55 Ldn. The director will review building permits for noise-sensitive developments.

Response: This project does not involve a noise-sensitive land use. Therefore, this criterion is not applicable.

Chapter 15.342 STREAM CORRIDOR OVERLAY (SC) SUBDISTRICT

15.342.020 Where these regulations apply.

The regulations of this chapter apply to the portion of any lot or development site which is within an SC overlay subdistrict. Unless specifically exempted by NMC 15.342.040, these regulations apply to the following:

- A. New structures, additions, accessory structures, decks, addition of concrete or other impervious surfaces;
- B. Any action requiring a development permit by this code;
- C. Changing of topography by filling or grading;
- D. Installation or expansion of utilities including but not limited to phone, cable TV, electrical, wastewater, storm drain, water or other utilities;
- E. Installation of pathways, bridges, or other physical improvements which alter the lands within the stream corridor overlay subdistrict.

Response: The subject site is partially located within the mapped Stream Corridor Overlay subdistrict. No new improvements are proposed within the Stream Corridor Overlay mapped area. Therefore, these regulations apply to only a portion of the subject site, however, the activities included in this application are exempt as described below.

15.342.030 General information.

The delineated stream corridor overlay subdistrict is described by boundary lines delineated on the City of Newberg zoning map indicated with an SC symbol. The boundaries of the SC areas were established by an ecologist analyzing several environmental values including erosion potential, wildlife habitat, riparian water quality protection, floodplain water quality protection, natural condition, and ecological integrity. This information is contained in more detail in a document titled "City of Newberg, Stream Corridors as a Goal 5

Resource.” This document includes a Goal 5 ESEE (economic, social, environment and energy consequences) analysis and was the basis for the preparation of this chapter. The boundaries of the SC overlay subdistrict are typically located at a logical top of bank, or where no obvious top of bank exists, are located at a distance 50 feet from the edge of the wetland. [Ord. 2451, 12-2-96. Code 2001 § 151.467.]

15.342.040 Activities exempt from these regulations.

The following public or private uses and activities are exempt from the regulations of this chapter:

- A. Emergency procedures or emergency activities undertaken by public or private parties which are necessary for the protection of public health, safety and welfare.
- B. Maintenance and repair of buildings, structures, yards, gardens or other activities or uses that were in existence prior to the effective date of the ordinance codified in these regulations.
- C. Alterations of buildings or accessory structures which do not increase building coverage.
- D. The expansion of an existing structure, building, improvements, or accessory structures, provided the expansion is located completely outside of the stream corridor delineation boundary.

Response: The subject site is partially located within the mapped Stream Corridor Overlay subdistrict. As illustrated on the preliminary plans, no new improvements are proposed within the Stream Corridor Overlay mapped area. Therefore, the improvements are exempt from the regulations of this chapter.

Chapter 15.356 BYPASS INTERCHANGE (BI) OVERLAY

15.356.020 Area of application of interchange overlay.

- A. The bypass interchange overlay shall apply to lands inside the city limits within the boundaries shown on Map VI (East Newberg Interchange) and Map VII (Oregon 219 Interchange).
- B. The bypass interchange overlay applies in addition to the regulations of the underlying zoning district. All property within the bypass interchange overlay shall be subject to both the provisions of this section and to the underlying zoning district. Nothing in this section shall be construed as a waiver or suspension of the provisions of any underlying zoning district, or any other applicable overlay district.
- C. The general boundaries of the bypass interchange overlay are shown on Map VI (East Newberg Interchange) and Map VII (Oregon 219 Interchange) and shall be delineated on a parcel-specific basis on the official zoning map. The width of the bypass corridor and interchanges shall be automatically narrowed to a smaller alignment-specific width as contained in the record of decision when it is issued for the Tier 2 environmental impact statement.

Response: The bypass has been constructed and the Bypass Interchange Overlay has been automatically narrowed per the Tier 2 environmental impact statement. Therefore, this application is no longer subject to the requirements of this chapter.

Division 15.400 Development Standards

Chapter 15.405 LOT REQUIREMENTS

15.405.010 Lot area – Lot areas per dwelling unit.

- A. In the following districts, each lot or development site shall have an area as shown below except as otherwise permitted by this code:
4. In the M-1, M-2 and M-3 districts, each lot or development site shall have a minimum area of 20,000 square feet.

Response: As shown on the preliminary plans in Exhibit A, the proposed development site has a minimum lot area of approximately 190,968 square feet. This criterion is met.

15.405.030 Lot dimensions and frontage.

- A. Width. Widths of lots shall conform to the standards of this code.

Response: The proposed lot dimensions are shown on the preliminary plans in Exhibit A, which are in conformance with this standard. Therefore, this standard is satisfied.

- B. Depth to Width Ratio. Each lot and parcel shall have an average depth between the front and rear lines of not more than two and one-half times the average width between the side lines. Depths of lots shall conform to the standards of this code. Development of lots under 15,000 square feet are exempt from the lot depth to width ratio requirement.

Response: The proposed lot dimensions, including the depth and width, are shown on the preliminary plans in Exhibit A, which are in conformance with this standard. Therefore, this standard is satisfied.

- C. Area. Lot sizes shall conform to standards set forth in this code. Lot area calculations shall not include area contained in public or private streets as defined by this code.

Response: Per Section 15.405.010(A)(4), the minimum lot standards in the M-2 zone are of 20,000 square feet. The subject property lot size is approximately 190,968 square feet. This criterion is met.

- D. Frontage.

1. No lot or development site shall have less than the following lot frontage standards:
- a. Each lot or development site shall have either frontage on a public street for a distance of at least 25 feet or have access to a public street through an easement that is at least 25 feet wide. No new private streets, as defined in NMC 15.05.030, shall be created to provide frontage or access.

Response: The proposed building frontage on Commerce Parkway, which is a private street with an access easement. Commerce Parkway provides access and frontage to 9th street, which is a public street; therefore, the subject site is in conformance with the lot frontage standard. This criterion is met.

15.405.040 Lot coverage and parking coverage requirements.

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- C. All other districts and uses not listed in subsection (B) of this section shall not be limited as to lot coverage and parking coverage except as otherwise required by this code.

Response: The maximum lot coverage in the M-2 zone is 85%, the proposed building and parking lot coverage is approximately 56.5. % as illustrated on the preliminary plans. Therefore, this criterion is met.

Chapter 15.410 YARD SETBACK REQUIREMENTS

15.410.010 General yard regulations.

- A. No yard or open space provided around any building for the purpose of complying with the provisions of this code shall be considered as providing a yard or open space for any other building.
- B. No yard or open space on adjoining property shall be considered as providing required yard or open space for another lot or development site under the provisions of this code.
- C. No front yards provided around any building for the purpose of complying with the regulations of this code shall be used for public or private parking areas or garages, or other accessory buildings, except as specifically provided elsewhere in this code.
- D. When the common property line separating two or more contiguous lots is covered by a building or a permitted group of buildings with respect to such common property line or lines does not fully conform to the required yard spaces on each side of such common property line or lines, such lots shall constitute a single development site and the yards as required by this code shall then not apply to such common property lines.
- E. Dwellings Where Permitted above Nonresidential Buildings. The front and interior yard requirements for residential uses shall not be applicable; provided, that all yard requirements for the district in which such building is located are complied with.
- F. In the AI airport industrial district, clear areas, safety areas, object-free areas, taxiways, parking aprons, and runways may be counted as required yards for a building, even if located upon an adjacent parcel.

Response: As illustrated on the preliminary plans and to the extent applicable, this application is in conformance the general regulations listed above.

15.410.020 Front yard setback.

- C. Industrial. All lots or development sites in the M-1, M-2 or M-3 districts shall have a front yard of 20 feet. Lots or development sites in the AI district shall have a front yard of 10 feet. Lots or development sites in the M-4 district shall have a front yard of 20 feet where abutting Highway 219, arterials, and collectors, and a front yard of 10 feet along other streets.

Response: As shown on the preliminary plans in Exhibit A, the proposed front yard setback is 20 feet. This criterion is met.

15.410.030 Interior yard setback.

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- C. Industrial. All lots or development sites in the AI, M-1, M-2, M-3, and M-4 districts shall have no interior yards where said lots or development sites abut property lines of commercially or industrially zoned property. When interior lot lines of said districts are common with property zoned residentially, interior yards of not less than 10 feet shall be required opposite the residential districts.

Response: As shown on the preliminary plans in Exhibit A, the proposed development does not contain interior yards. This criterion is met.

15.410.060 Vision clearance setback.

The following vision clearance standards shall apply in all zones (see Appendix A, Figure 9).

- A. At the intersection of two streets, including private streets, a triangle formed by the intersection of the curb lines, each leg of the vision clearance triangle shall be a minimum of 50 feet in length.
- B. At the intersection of a private drive and a street, a triangle formed by the intersection of the curb lines, each leg of the vision clearance triangle shall be a minimum of 25 feet in length.
- C. Vision clearance triangles shall be kept free of all visual obstructions from two and one-half feet to nine feet above the curb line. Where curbs are absent, the edge of the asphalt or future curb location shall be used as a guide, whichever provides the greatest amount of vision clearance.
- D. There is no vision clearance requirement within the commercial zoning district(s) located within the riverfront (RF) overlay subdistrict.

Response: The subject property abuts Commerce Parkway, a private street. The subject property meets the vision clearance requirements described above as demonstrated on the preliminary plans in Exhibit A. Therefore, this standard is satisfied.

15.410.070 Yard exceptions and permitted intrusions into required yard setbacks.

The following intrusions may project into required yards to the extent and under the conditions and limitations indicated:

- A. Depressed Areas. In any district, open work fences, hedges, guard railings or other landscaping or architectural devices for safety protection around depressed ramps, stairs or retaining walls may be located in required yards; provided, that such devices are not more than three and one-half feet in height.
- B. Accessory Buildings. In front yards on through lots, where a through lot has a depth of not more than 140 feet, accessory buildings may be located in one of the required front yards; provided, that every portion of such accessory building is not less than 10 feet from the nearest street line.
- C. Projecting Building Features. The following building features may project into the required front yard no more than five feet and into the required interior yards no more than two feet; provided, that such projections are no closer than three feet to any interior lot line:

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1. Eaves, cornices, belt courses, sills, awnings, buttresses or other similar features.
 2. Chimneys and fireplaces, provided they do not exceed eight feet in width.
 3. Porches, platforms or landings which do not extend above the level of the first floor of the building.
 4. Mechanical structures (heat pumps, air conditioners, emergency generators and pumps).

Response: As shown on the Preliminary Site Plan, the existing HVAC unit is located within the front yard setback, which is a permitted intrusion into required yard setbacks. As shown on the Preliminary Site Plan, no other intrusions are planned to project into the required yard setbacks.

D. Fences and Walls.

2. In any commercial or industrial district, a fence or wall shall be permitted to be placed at the property line or within a yard setback as follows:
 - a. Not to exceed eight feet in height. Located or maintained in any interior yard except where the requirements of vision clearance apply. For purposes of fencing only, lots that are corner lots or through lots may select one of the street frontages as a front yard and all other yards shall be considered as interior yards, allowing the placement of an eight-foot fence on the property line.
 - b. Not to exceed four feet in height. Located or maintained within all other front yards.
3. If chain link (wire-woven) fences are used, they are manufactured of corrosion-proof materials of at least 11-1/2 gauge.
4. The requirements of vision clearance shall apply to the placement of fences.

Response: An existing chain link fence is located along the perimeter of the subject site, which will be retained on the subject site and not fall out of conformance with the criteria included in this section, as shown on the preliminary plans in Exhibit A. The criteria are met.

E. Parking and Service Drives (Also Refer to NMC 15.440.010 through 15.440.080).

1. In any district, service drives or accessways providing ingress and egress shall be permitted, together with any appropriate traffic control devices in any required yard.
3. In any commercial or industrial district, except C-1, C-4 and M-1, public or private parking areas or parking spaces shall be permitted in any required yard (see NMC 15.410.030). Parking requirements in the C-4 district are described in NMC 15.352.040(H).

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4. In the I district, public or private parking areas or parking spaces may be no closer to a front property line than 20 feet, and no closer to an interior property line than five feet.

Response: The proposed parking and accessways are shown on the preliminary plans in Exhibit A, which are in conformance with the criteria provided above. The criteria are met.

- F. Public Telephone Booths and Public Transit Shelters. Public telephone booths and public transit shelters shall be permitted; provided, that vision clearance is maintained for vehicle requirements for vision clearance.

Response: Public telephone booths and public transit shelters are not included with this application. Therefore, this criterion does not apply.

- G. Hangars within the AR airport residential district may be constructed with no yard setbacks to property lines adjacent to other properties within the airport residential or airport industrial districts.

Response: Hangers are not included with this application. Therefore, this criterion does not apply.

Chapter 15.415 BUILDING AND SITE DESIGN STANDARDS

15.415.010 Main buildings and uses as accessory buildings.

- A. Hereinafter, any building which is the only building on a lot is a main building.

Response: This criterion is understood.

- B. In any residential district except RP, there shall be only one main use per lot or development site; provided, that home occupations shall be allowed where permitted.

Response: The subject site is not located in a residential district. Therefore, this criterion does not apply.

- C. In any residential district, there shall be no more than two accessory buildings on any lot or development site.

Response: The subject site is not located in a residential district. Therefore, this criterion does not apply.

15.415.020 Building height limitation.

- B. Commercial and Industrial.

1. In the C-1 district no main building or accessory building shall exceed 30 feet in height.

Response: The subject site is not located in the C- 1 district. Therefore, this criterion does not apply.

2. In the AI, C-2, C-3, M-1, M-2, and M-3 districts there is no building height limitation, except, where said districts abut upon a residential district, the maximum permitted building height shall not exceed the maximum building height permitted in the abutting residential district for a distance of 50 feet from the abutting boundary.

Response: The subject property is located in the M-2 district and within the Airport Overlay Subdistrict. The proposed building height is illustrated on the Architectural Plans and Renderings in Exhibit E, which are in conformance with the height limits of the Airport Overlay Subdistrict as shown on the preliminary plans in Exhibit A. The subject site does not abut a residential district. Therefore, this criterion is satisfied.

3. In the C-4 district, building height limitation is described in NMC 15.352.040(J)(1).

Response: The subject site is not located in the C-4 district. Therefore, this criterion does not apply.

C. The maximum height of buildings and uses permitted conditionally shall be stated in the conditional use permits.

Response: This application does not involve a conditional use; therefore, this criterion does not apply.

E. Alternative Building Height Standard. As an alternative to the building height standards above, any project may elect to use the following standard (see Figure 24 in Appendix A). To meet this standard:

1. Each point on the building must be no more than 20 feet higher than the ground level at all points on the property lines, plus one vertical foot for each horizontal foot of distance from that property line; and
2. Each point on the building must be no more than 20 feet higher than the ground level at a point directly north on a property line, plus one vertical foot for each two horizontal feet of distance between those points. This second limit does not apply if the property directly to the north is a right-of-way, parking lot, protected natural resource, or similar unbuildable property.

Response: This application is in conformance with the maximum building height, as noted above. Therefore, the alternative building height standard is not applicable.

F. Buildings within the airport overlay subdistrict are subject to the height limits of that subdistrict.

Response: As previously noted above, the subject property is located within the Airport Overlay Subdistrict. The proposed building height is illustrated on the Architectural Plans and Renderings in Exhibit E, which are in conformance with the height limits of the Airport Overlay Subdistrict (shown on the preliminary plans). Therefore, this criterion is satisfied.

Chapter 15.420 LANDSCAPING AND OUTDOOR AREAS

15.420.010 Required minimum standards.

B. Required Landscaped Area. The following landscape requirements are established for all developments except single-family dwellings:

1. A minimum of 15 percent of the lot area shall be landscaped; provided, however, that computation of this minimum may include areas landscaped under subsection (B)(3) of this section. Development in the C-3 (central business district) zoning district and M-4 (large lot industrial) zoning district

is exempt from the 15 percent landscape area requirement of this section. Additional landscaping requirements in the C-4 district are described in NMC 15.352.040(K). In the AI airport industrial district, only a five percent landscaping standard is required with the goal of “softening” the buildings and making the development “green” with plants, where possible. The existence of the runway, taxiway, and approach open areas already provide generally for the 15 percent requirement. Developments in the AI airport industrial district with a public street frontage shall have said minimum landscaping between the front property line and the front of the building.

Response: The existing natural vegetation coupled with the proposed landscaped area comprises approximately 32 percent of the total lot area, which exceeds the minimum required landscape area of 15 percent of the lot area. Therefore, this standard is met.

2. All areas subject to the final design review plan and not otherwise improved shall be landscaped.

Response: To the extent applicable, this standard can be met.

3. The following landscape requirements shall apply to the parking and loading areas:
- a. A parking or loading area providing 10 or more spaces shall be improved with defined landscaped areas totaling no less than 25 square feet per parking space.

Response: The Preliminary Landscape Plan in Exhibit A depicts the proposed landscaping within the parking and loading areas, this includes landscape islands in parking lot area. This standard is satisfied.

- b. A parking, loading area, or drive aisle which runs adjacent to a property line shall be separate from any lot line adjacent to a street by a landscaped strip at least 10 feet in interior width or the width of the required yard, whichever is greater, and any other lot line by a landscaped strip of at least five feet in interior width. See subsections (B)(3)(c) and (d) of this section for material to plant within landscape strips.

Response: As demonstrated on the preliminary plans in Exhibit A, the parking lot and loading area does not run adjacent to a property line. Therefore, this standard does not apply.

- c. A landscaped strip separating a parking area, loading area, or drive aisle from a street shall contain street trees spaced as appropriate to the species, not to exceed 50 feet apart on average, and a combination of shrubs and ground cover, or lawn. This landscaping shall provide partial screening of these areas from the street.

Response: The frontage on Commerce Parkway (a private street) is separated from the parking and loading area as shown on the preliminary plans in Exhibit A. This standard is met.

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- d. A landscaped strip separating a parking area, loading area, or drive aisle from an interior lot line shall contain any combination of trees, shrubs, ground cover or lawn. Plant material shall be selected from at least two different plant material groups (example: trees and shrubs, or lawn and shrubs, or lawn and trees and shrubs).

Response: As shown on the preliminary plans in Exhibit A, the parking area and drive isles are screened by existing trees and vegetation. Therefore, this standard is satisfied.

- e. Landscaping in a parking or loading area shall be located in defined landscaped areas which are uniformly distributed throughout the parking or loading area.

Response: As shown on the Preliminary Landscape Plan in Exhibit A, the landscaping within the parking area is planned located in uniformly distributed landscape islands. This standard is met.

- f. Landscaping areas in a parking lot, service drive or loading area shall have an interior width of not less than five feet.

Response: The dimensions of the proposed landscaped areas are shown on the preliminary plans in Exhibit A, which are in conformance with the requirement above. This standard is met.

- g. All multifamily, institutional, commercial, or industrial parking areas, service drives, or loading zones which abut a residential district shall be enclosed with a 75 percent opaque, site-obscuring fence, wall or evergreen hedge along and immediately adjacent to any interior property line which abuts the residential district. Landscape plantings must be large enough to provide the required minimum screening requirement within 12 months after initial installation. Adequate provisions shall be maintained to protect walls, fences or plant materials from being damaged by vehicles using said parking areas.

Response: The subject site does not abut a residential district. This standard does not apply.

- h. An island of landscaped area shall be located to separate blocks of parking spaces. At a minimum, one deciduous shade tree per seven parking spaces shall be planted to create a partial tree canopy over and around the parking area. No more than seven parking spaces may be grouped together without an island separation unless otherwise approved by the director based on the following alternative standards:

- i. Provision of a continuous landscaped strip, with a five-foot minimum width, which runs perpendicular to the row of parking spaces (see Appendix A, Figure 13).

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- ii. Provision of tree planting landscape islands, each of which is at least 16 square feet in size, and spaced no more than 50 feet apart on average, within areas proposed for back-to-back parking (see Appendix A, Figure 14).

Response: As shown on the Preliminary Landscape Plan in Exhibit A, the parking area contains landscaped islands to separate blocks of parking spaces at a minimum of one deciduous shade tree per 5 parking spaces. This standard is met.

- 4. Trees, Shrubs and Ground Covers. The species of street trees required under this section shall conform to those authorized by the city council through resolution. The director shall have the responsibility for preparing and updating the street tree species list which shall be adopted in resolution form by the city council.
 - a. Arterial and minor arterial street trees shall have spacing of approximately 50 feet on center. These trees shall have a minimum two-inch caliper tree trunk or stalk at a measurement of two feet up from the base and shall be balled and burlapped or boxed.
 - b. Collector and local street trees shall be spaced approximately 35 to 40 feet on center. These trees shall have a minimum of a one and one-half or one and three-fourths inch tree trunk or stalk and shall be balled and burlapped or boxed.
 - c. Accent Trees. Accent trees are trees such as flowering cherry, flowering plum, crab-apple, Hawthorne and the like. These trees shall have a minimum one and one-half inch caliper tree trunk or stalk and shall be at least eight to 10 feet in height. These trees may be planted bare root or balled and burlapped. The spacing of these trees should be approximately 25 to 30 feet on center.
 - d. All broad-leafed evergreen shrubs and deciduous shrubs shall have a minimum height of 12 to 15 inches and shall be balled and burlapped or come from a two-gallon can. Gallon-can size shrubs will not be allowed except in ground covers. Larger sizes of shrubs may be required in special areas and locations as specified by the design review board. Spacing of these shrubs shall be typical for the variety, three to eight feet, and shall be identified on the landscape planting plan.
 - e. Ground Cover Plant Material. Ground cover plant material such as greening juniper, cotoneaster, minor Bowles, English ivy, hypericum and the like shall be one of the following sizes in specified spacing for that size:

Ground Cover Plant Material

Gallon cans	3 feet on center
4" containers	2 feet on center
2-1/4" containers	18" on center
Rooted cuttings	12" on center

Response: The Preliminary Landscape Plan in Exhibit A, details the proposed landscaping materials, including the sizing and spacing and plant type, which meets the provisions of this section. These standard are satisfied.

5. Automatic, underground irrigation systems shall be provided for all areas required to be planted by this section. The director shall retain the flexibility to allow a combination of irrigated and nonirrigated areas. Landscaping material used within nonirrigated areas must consist of drought- resistant varieties. Provision must be made for alternative irrigation during the first year after initial installation to provide sufficient moisture for plant establishment.

Response: As applicable, automatic, underground irrigation systems can be provided for all areas required to be planted by this section. This standard n can be met.

6. Required landscaping shall be continuously maintained.

Response: This standard will be met.

7. Maximum height of tree species shall be considered when planting under overhead utility lines.

Response: The subject site does not contain overhead utilities or propose new overhead utilities. Therefore, this standard is not applicable.

8. Landscaping requirements and standards for parking and loading areas (subsection (B)(3) of this section) will apply to development proposals unless the institution has addressed the requirements and standards by an approved site development master plan. With an approved site development master plan, the landscape requirements will be reviewed through an administrative Type I review process.

Response: This application involves a site design review; therefore, it is subject to the landscaping requirements and standards.

9. In the M-4 zone, landscaping requirements and standards for parking and loading areas (subsection (B)(3) of this section) do not apply unless within 50 feet of a residential district.

Response: The proposed development is within the M-2 zone. This standard does not apply.

- C. Installation of Landscaping. All landscaping required by these provisions shall be installed prior to the issuance of occupancy permits, unless security equal to 110 percent of the cost of the landscaping as determined by the director is filed with the city,

insuring such installation within six months of occupancy. A security – cash, certified check, time certificates of deposit, assignment of a savings account, bond or such other assurance of completion as shall meet with the approval of the city attorney – shall satisfy the security requirements. If the installation of the landscaping is not completed within the six-month period, or within an extension of time authorized by the director, the security may be used by the city to complete the installation. Upon completion of the installation, any portion of the remaining security deposited with the city shall be returned to the applicant.

Response: This standard will be met.

15.420.020 Landscaping and amenities in public rights-of-way.

The following standards are intended to create attractive streetscapes and inviting pedestrian spaces. A review body may require any of the following landscaping and amenities to be placed in abutting public rights-of-way as part of multifamily, commercial, industrial, or institutional design reviews, or for subdivisions and planned unit developments. In addition, any entity improving existing rights-of-way should consider including these elements in the project. A decision to include any amenity shall be based on comprehensive plan guidelines, pedestrian volumes in the area, and the nature of surrounding development.

Response: The subject site abuts and accesses a private street and not a public right-of-way. This application does not involve a new public right-of-way. Therefore, the criteria included in this section are not applicable.

Chapter 15.425 EXTERIOR LIGHTING

15.425.020 Applicability and exemptions.

A. Applicability. Outdoor lighting shall be required for safety and personal security in areas of assembly, parking, and traverse, as part of multifamily residential, commercial, industrial, public, recreational and institutional uses. The applicant for any Type I or Type II development permit shall submit, as part of the site plan, evidence that the proposed outdoor lighting plan will comply with this section. This information shall contain but not be limited to the following:

1. The location, height, make, model, lamp type, wattage, and proposed cutoff angle of each outdoor lighting fixture.
2. Additional information the director may determine is necessary, including but not limited to illuminance level profiles, hours of business operation, and percentage of site dedicated to parking and access.
3. If any portion of the site is used after dark for outdoor parking, assembly or traverse, an illumination plan for these areas is required. The plan must address safety and personal security.

Response: Exterior lighting proposed with this project is illustrated on the plans included with the application materials, which demonstrates the proposed outdoor lighting plan is in compliance with this section.

15.425.030 Alternative materials and methods of construction, installation, or operation.

The provisions of this section are not intended to prevent the use of any design, material, or methods of installation or operation not specifically prescribed by this section, provided any such alternate has been approved by the director. Alternatives must be an approximate equivalent to the applicable specific requirement of this section and must comply with all other applicable standards in this section.

Response: Alternatives to the exterior lighting materials and methods of construction, installation and operation are not proposed with this application. Therefore, this criterion is not applicable.

15.425.040 Requirements.

A. General Requirements – All Zoning Districts.

1. Low-level light fixtures include exterior lights which are installed between ground level and six feet tall. Low-level light fixtures are considered nonintrusive and are unrestricted by this code.
2. Medium-level light fixtures include exterior lights which are installed between six feet and 15 feet above ground level. Medium-level light fixtures must either comply with the shielding requirements of subsection (B) of this section, or the applicant shall show that light trespass from a property has been designed not to exceed one-half foot-candle at the property line.
3. High-level light fixtures include exterior lights which are installed 15 feet or more above ground level. High-level light fixtures must comply with the shielding requirements of subsection (B) of this section, and light trespass from a property may not exceed one-half foot-candle at the property line.

B. Table of Shielding Requirements.

Table of Shielding Requirements	
Fixture Lamp Type	Shielded
Low/high pressure sodium, mercury vapor, metal halide and fluorescent over 50 watts	Fully
Incandescent over 160 watts	Fully
Incandescent 160 watts or less	None
Fossil fuel	None
Any light source of 50 watts or less	None
Other sources	As approved by NMC 15.425.030
Note: "Incandescent" includes tungsten-halogen (quartz) lamps.	

Response: Exterior lighting proposed with this project is illustrated on the plans included with the application materials, which demonstrates the proposed outdoor lighting plan meets the general requirements listed in this section.

Chapter 15.430 UNDERGROUND UTILITY INSTALLATION

15.430.010 Underground utility installation.

- A. All new utility lines, including but not limited to electric, communication, natural gas, and cable television transmission lines, shall be placed underground. This does not include surface-mounted transformers, connections boxes, meter cabinets, service cabinets, temporary facilities during construction, and high-capacity electric lines operating at 50,000 volts or above.

Response: As shown on the Preliminary Utility Plan in Exhibit A, the new utilities are planned to be installed underground. This criterion is satisfied.

- B. Existing utility lines shall be placed underground when they are relocated, or when an addition or remodel requiring a Type II design review is proposed, or when a developed area is annexed to the city.

Response: Relocating existing utility lines is not proposed. However, as applicable, existing utilities that may need to be relocated in the future can be installed underground to meet this requirement. This criterion is satisfied.

- C. The director may make exceptions to the requirement to underground utilities based on one or more of the following criteria:
1. The cost of undergrounding the utility is extraordinarily expensive.
 2. here are physical factors that make undergrounding extraordinarily difficult.
 3. Existing utility facilities in the area are primarily overhead and are unlikely to be changed.

Response: The criteria are understood.

Chapter 15.440 OFF-STREET PARKING, BICYCLE PARKING, AND PRIVATE WALKWAYS

Article I. Off-Street Parking Requirements

15.440.010 Required off-street parking.

- A. Off-street parking shall be provided on the development site for all R-1, C-1, M-1, M-2 and M-3 zones. In all other zones, the required parking shall be on the development site or within 400 feet of the development site which the parking is required to serve. All required parking must be under the same ownership as the development site served except through special covenant agreements as approved by the city attorney, which bind the parking to the development site.

Response: The subject site contains existing off-street parking. The preliminary plans in Exhibit A show the existing and proposed off-street parking area improvements, which conforms with the requirements of this section. This criterion is met.

- D. All commercial, office, or industrial developments that have more than 20 off-street parking spaces and that have designated employee parking must provide at least one preferential carpool/vanpool parking space. The preferential carpool/vanpool parking space(s) must be located close to a building entrance.

Response: The parking area does not include designated employee parking spaces. This criterion does not apply.

15.440.020 Parking area and service drive design.

- A. All public or private parking areas, parking spaces, or garages shall be designed, laid out and constructed in accordance with the minimum standards as set forth in NMC 15.440.070.

Response: As shown on the preliminary plans in Exhibit A, the existing parking area is in conformance with the minimum standards as set forth in NMC 15.440.070. The proposed improvements to the parking area are also planned to be in conformance with the minimum standards set forth in NMC 15.440.070. This criterion is met.

- B. Groups of three or more parking spaces, except those in conjunction with single-family or two-family dwellings on a single lot, shall be served by a service drive so that no backward movement or other maneuvering of a vehicle within a street, other than an alley, will be required. Service drives shall be designed and constructed to facilitate the flow of traffic, provide maximum safety in traffic access and egress and maximum safety of pedestrian and vehicular traffic on the site, but in no case shall two-way and one-way service drives be less than 20 feet and 12 feet, respectively. Service drives shall be improved in accordance with the minimum standards as set forth in NMC 15.440.060.

Response: The parking area is located on the subject site and contains a service drive, which is conformance with the minimum standards set forth in NMC 15.440.060 as depicted on the Preliminary Site Plan in Exhibit A. The service drive and parking spaces are situated to facilitate the flow of traffic, provide maximum safety, and so that backward movement into a street by a vehicle is not required. This criterion is met.

- C. Gates. A private drive or private street serving as primary access to more than one dwelling unit shall not be gated to limit access, except as approved by variance.

Response: The proposed subject site is for industrial business park and does not include dwelling units. This criterion does not apply.

15.440.030 Parking spaces required.

Parking Spaces Required	
Use	Minimum Parking Spaces Required
Industrial Types	
Except as specifically mentioned herein, industrial uses listed as permitted in the M districts: M-1, M-2, M-3, and M-4	1 for each 500 sq. ft. of gross floor area
Aircraft storage hangars up to 3,600 sq. ft. each enclosed hangar area	None (parking occurs in hangar)

Aircraft storage hangars over 3,600 sq. ft. each enclosed hangar area	1 for every 700 sq. ft. of hangar area over 3,600 sq. ft.
Aircraft hangars intended for repair and maintenance operations	1 for each 5,000 sq. ft. of hangar, plus 1 for each 500 sq. ft. of shop area, plus 1 for each 400 sq. ft. of office area
Laboratories and research facilities	1 for each 300 sq. ft. of gross floor area
Machinery or equipment	1 for each 400 sq. ft. of gross sales floor area
Wholesale and storage operations	1 for each 700 sq. ft. of gross floor area

Response: The proposed 4-unit industrial warehouse building complex plus the existing warehouse building is approximately 18,358 square feet, which requires 37 parking spaces (according to the table provided above). As demonstrated on the Preliminary Site Plan in Exhibit A, the existing and proposed parking spaces amount to 40 parking spaces, which includes 4 ADA parking stalls. Therefore, this criterion is satisfied.

15.440.060 Parking area and service drive improvements.

All public or private parking areas, outdoor vehicle sales areas, and service drives shall be improved according to the following:

- A. All parking areas and service drives shall have surfacing of asphaltic concrete or Portland cement concrete or other hard surfacing such as brick or concrete pavers. Other durable and dust-free surfacing materials may be approved by the director for infrequently used parking areas. All parking areas and service drives shall be graded so as not to drain stormwater over the public sidewalk or onto any abutting public or private property.

Response: As shown on the preliminary plans in Exhibit A, the existing parking area is constructed with asphalt. The proposed improvements are planned to cause the parking area fall out of conformance with the requirements provided above. This criterion is met.

- B. All parking areas shall be designed not to encroach on public streets, alleys, and other rights-of-way. Parking areas shall not be placed in the area between the curb and sidewalk or, if there is no sidewalk, in the public right-of-way between the curb and the property line. The director may issue a permit for exceptions for unusual circumstances where the design maintains safety and aesthetics.

Response: As shown on the preliminary plans in Exhibit A, the existing parking area does not encroach on public streets, alleys, and other rights-of-way. This criterion is met

- C. All parking areas, except those required in conjunction with a single-family or two-family dwelling, shall provide a substantial bumper which will prevent cars from encroachment on abutting private and public property.

Response: The parking area and associated parking stall bumpers are shown on the Preliminary Site Plan in Exhibit A. This criterion is met.

- D. All parking areas, including service drives, except those required in conjunction with single-family or two-family dwellings, shall be screened in accordance with NMC 15.420.010(B).

Response: The parking area is landscaped and screened as depicted on the preliminary landscape plan in Exhibit A, which is in accordance with NMC 15.420.010(B). This criterion is met.

- E. Any lights provided to illuminate any public or private parking area or vehicle sales area shall be so arranged as to reflect the light away from any abutting or adjacent residential district.

Response: The subject site does not abut a residential district. This criterion does not apply.

- F. All service drives and parking spaces shall be substantially marked and comply with NMC 15.440.070.

Response: As detailed on the Preliminary Site Plan in Exhibit A, the parking spaces are planned to be clearly delineated in the parking area to comply with NMC 15.440.070. This criterion is met.

- G. Parking areas for residential uses shall not be located in a required front yard, except as follows:

1. Attached or detached single-family or two-family: parking is authorized in a front yard on a service drive which provides access to an improved parking area outside the front yard.
2. Three- or four-family: parking is authorized in a front yard on a service drive which is adjacent to a door at least seven feet wide intended and used for entrance of a vehicle (see Appendix A, Figure 12).

Response: This application does not involve a residential land use. Therefore, the criteria do not apply.

- G. A reduction in size of the parking stall may be allowed for up to a maximum of 30 percent of the total number of spaces to allow for compact cars. For high turnover uses, such as convenience stores or fast-food restaurants, at the discretion of the director, all stalls will be required to be full-sized.

Response: This application does not include a reduction in size of the parking stall(s). This criterion does not apply.

- H. Affordable housing projects may use a tandem parking design, subject to approval of the community development director.

Response: This application does not involve affordable housing. Therefore, this criterion does not apply.

- I. Portions of off-street parking areas may be developed or redeveloped for transit-related facilities and uses such as transit shelters or park-and-ride lots, subject to meeting all other applicable standards, including retaining the required minimum number of parking spaces

Response: Redevelopment or development of the parking area for transit-related facilities and uses is not planned with this application. This criterion does not apply.

15.440.070 Parking tables and diagrams.

The following tables provide the minimum dimensions of public or private parking areas

Table of Dimensions (in feet)					
Basic Stall			Back to Back	Aisles	
Angle- °	A	B	C	D (one-way)	E (two-way)
30°	18	16.8	25.8	12	20
38°	14.6	18.2	29.3	12	20
45°	12.7	19.1	31.8	12	20
52°	11.4	19.7	33.9	13	20
55°	11	19.9	34.6	14	20
60°	10.4	20.1	35.7	15	20
70°	9.6	20	36.9	18	20
80°	9.1	19.3.3	37	20	20
Notes: 1. Bumpers must be installed where paved areas abut street right-of-way (except at driveways). 2. No stalls shall be such that cars must back over the property line to enter or leave stall. 3. Stalls must be clearly marked and the markings must be maintained in good condition. 4. The sketches show typical situations to illustrate the required standards. For further information or advice, contact the community development department at 537-1210					

Stall Width with Corresponding Table of dimensions (in feet)						
Stall Width = X	9	9.5	10	10.5	11	12
Aisle Width = Y	24	24	22	22	20	20
Notes: 1. Bumpers must be installed where paved areas abut street right-of-way (except at driveways). 2. No stalls shall be such that cars must back over the property line to enter or leave stall. 3. Stalls must be clearly marked and the markings must be maintained in good condition. 4. The sketches show typical situations to illustrate the required standards. For further information or advice, contact the planning department.						

Response: The dimensions of the parking spaces are shown on the Preliminary Site Plan in Exhibit A and are in conformance with the dimensions and requirements provided in the tables above. The criteria are met.

Article II. Bicycle Parking

15.440.090 Purpose.

Cycling is a healthy activity for travel and recreation. In addition, by maximizing bicycle travel, the community can reduce negative effects of automobile travel, such as congestion and pollution. To maximize bicycle travel, developments must provide effective support facilities. At a minimum, developments need to provide a secure place for employees, customers, and residents to park their bicycles.

15.440.100 Facility requirements.

Bicycle parking facilities shall be provided for the uses shown in the following table. Fractional space requirements shall be rounded up to the next whole number.

Bicycle Parking Requirements	
Use	Minimum Number of Bicycle Parking Spaces Required
New commercial, industrial, office, and institutional developments, including additions that total 4,000 square feet or more	One bicycle parking space for every 10,000 square feet of gross floor area. In C-4 districts, two bicycle parking spaces, or one per 5,000 square feet of building area, must be provided, whichever is greater

Response: The total gross floor area for the existing and proposed development is approximately 18,358 square feet, the minimum required number of bicycle parking spaces is two. Two bicycle parking spaces are proposed to be installed on the subject site, as illustrated on the Preliminary Site Plan in Exhibit A. This criterion is met.

15.440.110 Design.

A. Bicycle parking facilities shall consist of one or more of the following:

1. A firmly secured loop, bar, rack, or similar facility that accommodates locking the bicycle frame and both wheels using a cable or U-shaped lock.
2. An enclosed locker.
3. A designated area within the ground floor of a building, garage, or storage area. Such area shall be clearly designated for bicycle parking.

Response: As shown on the preliminary site plan, the proposed bicycle parking is located in an area clearly designated for bicycle parking. This criterion is met.

4. Other facility designs approved by the director.

B. All bicycle parking spaces shall be at least six feet long and two and one-half feet wide. Spaces shall not obstruct pedestrian travel.

Response: The proposed bicycle parking spaces are planned to be at minimum 6 feet long and 2.5 feet wide and, they are not intended to obstruct pedestrian travel, as shown on the Preliminary Site Plan in Exhibit A. This criterion is met.

C. All spaces shall be located within 50 feet of a building entrance of the development.

Response: The proposed location of the bicycle parking is within 50 feet of a building entrance of the development, as depicted on the Preliminary Site Plan in Exhibit A. This criterion is met.

D. Required bicycle parking facilities may be located in the public right-of-way adjacent to a development subject to approval of the authority responsible for maintenance of that right-of-way.

Response: The location of the proposed bicycle parking is shown on the Preliminary Site Plan in Exhibit A, which abuts the proposed 4-unit industrial warehouse building. This criterion is met.

Article III. Private Walkways

15.440.140 Private walkway design.

-
- A. All required private walkways shall meet the applicable building code and Americans with Disabilities Act requirements.

Response: The proposed sidewalks include ADA accessible ramps as depicted on the Preliminary Site Plan in Exhibit A. This criterion is met.

- B. Required private walkways shall be a minimum of four feet wide.

Response: As shown on the Preliminary Site Plan in Exhibit A, the private pedestrian walkways are planned to be 5-feet wide. Therefore, this criterion is met.

- C. Required private walkways shall be constructed of portland cement concrete or brick.

Response: As shown on the Preliminary Site Plan in Exhibit A, the private pedestrian walkways are planned to be constructed with concrete. Therefore, this criterion is met.

- D. Crosswalks crossing service drives shall, at a minimum, be painted on the asphalt or clearly marked with contrasting paving materials or humps/raised crossings. If painted striping is used, it should consist of thermoplastic striping or similar type of durable application.

Response: As shown on the Preliminary Site Plan in Exhibit A, street crosswalks are not proposed as part of this project to the proposed project. Therefore, this criterion does not apply.

- E. At a minimum, required private walkways shall connect each main pedestrian building entrance to each abutting public street and to each other.

Response: As shown on the Preliminary Site Plan in Exhibit A, the private pedestrian walkways are planned to connect to each main building entrance, to each other, and to the private street abutting the subject site. Therefore, this criterion is met.

- F. The review body may require on-site walks to connect to development on adjoining sites.

Response: If required by the review body, on-site walks can be connected to development on adjoining sites.

- G. The review body may modify these requirements where, in its opinion, the development provides adequate on-site pedestrian circulation, or where lot dimensions, existing building layout, or topography preclude compliance with these standards.

Response: In the event the review body modifies these requirements, then the modifications to these requirements can be met.

Division 15.500

Public Improvement Standards

Chapter 15.505

PUBLIC IMPROVEMENTS STANDARDS

15.505.020

Applicability.

The provision and utilization of public facilities and services within the City of Newberg shall apply to all land developments in accordance with this chapter. No development shall be approved unless the following improvements are provided for prior to

occupancy or operation, unless future provision is assured in accordance with NMC 15.505.030(E).

Response: As previously noted above, this application involves a 4-unit industrial warehouse building complex. Therefore, this application is subject to the public improvement standards.

- A. Public Works Design and Construction Standards. The design and construction of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required shall comply with the requirements of the most recently adopted Newberg public works design and construction standards.

Response: The preliminary plans demonstrate this application is in conformance with this standard.

- B. Street Improvements. All projects subject to a Type II design review, partition, or subdivision approval must construct street improvements necessary to serve the development.

Response: No new streets are required as part of the proposed development. This standard does not apply.

- C. Water. All developments, lots, and parcels within the City of Newberg shall be served by the municipal water system as specified in Chapter 13.15 NMC.

Response: As shown on the Preliminary Utility Plan in Exhibit A, this standard is satisfied.

- D. Wastewater. All developments, lots, and parcels within the City of Newberg shall be served by the municipal wastewater system as specified in Chapter 13.10 NMC.

Response: As shown on the Preliminary Utility Plan in Exhibit A, this standard is satisfied.

- E. Stormwater. All developments, lots, and parcels within the City of Newberg shall manage stormwater runoff as specified in Chapters 13.20 and 13.25 NMC.

Response: As shown on the Preliminary Utility Plan in Exhibit A, the stormwater runoff is planned to be managed on-site and is in conformance with Chapters 13.20 and 13.25 NMC.

- F. Utility Easements. Utility easements shall be provided as necessary and required by the review body to provide needed facilities for present or future development of the area.

Response: New utility easements are not proposed with this application. However, if required by the City, new utility easement can be dedicated to provide the needed facilities for present or future development of the area.

- G. City Approval of Public Improvements Required. No building permit may be issued until all required public facility improvements are in place and approved by the director, or are otherwise bonded for in a manner approved by the review authority, in conformance with the provisions of this code and the Newberg Public Works Design and Construction Standards.

Response: This standard will be met.

15.505.030 Street standards.

Response: The subject site is not located on a public street. The subject site abuts and accesses a private street and new streets are not proposed or required as part of this application. The street standards do not apply.

15.505.040 Public utility standards.

- A. Purpose. The purpose of this section is to provide adequate services and facilities appropriate to the scale and type of development.
- B. Applicability. This section applies to all development where installation, extension or improvement of water, wastewater, or private utilities is required to serve the development or use of the subject property.

Response: As demonstrated on the preliminary plans, this application involves the installation, extension or improvement of water, wastewater, and private utilities. Therefore, this application is subject to the standards of this section.

C. General Standards.

- 1. The design and construction of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required shall conform to the Newberg public works design and construction standards and require a public improvements permit.
- 2. The location, design, installation and maintenance of all utility lines and facilities shall be carried out with minimum feasible disturbances of soil and site. Installation of all proposed public and private utilities shall be coordinated by the developer and be approved by the city to ensure the orderly extension of such utilities within public right-of-way and easements.

Response: As demonstrated on the preliminary plans in Exhibit A, the design and construction of the utility infrastructure is in conformance with the standards above.

D. Standards for Water Improvements. All development that has a need for water service shall install the facilities pursuant to the requirements of the city and all of the following standards. Installation of such facilities shall be coordinated with the extension or improvement of necessary wastewater and stormwater facilities, as applicable.

- 1. All developments shall be required to be linked to existing water facilities adequately sized to serve their intended area by the construction of water distribution lines, reservoirs and pumping stations which connect to such water service facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.
- 2. Specific location, size and capacity of such facilities will be subject to the approval of the director with reference to the

applicable water master plan. All water facilities shall conform with city pressure zones and shall be looped where necessary to provide adequate pressure and fire flows during peak demand at every point within the system in the development to which the water facilities will be connected. Installation costs shall remain entirely the developer's responsibility.

3. The design of the water facilities shall take into account provisions for the future extension beyond the development to serve adjacent properties, which, in the judgment of the city, cannot be feasibly served otherwise.
4. Design, construction and material standards shall be as specified by the director for the construction of such public water facilities in the city.

Response: The Preliminary Utility Plan in Exhibit A details the existing and conceptual utility infrastructure, which demonstrates the proposed water improvements are in conformance with this standard.

E. Standards for Wastewater Improvements. All development that has a need for wastewater services shall install the facilities pursuant to the requirements of the city and all of the following standards. Installation of such facilities shall be coordinated with the extension or improvement of necessary water services and stormwater facilities, as applicable.

1. All septic tank systems and on-site sewage systems are prohibited. Existing septic systems must be abandoned or removed in accordance with Yamhill County standards.
2. All properties shall be provided with gravity service to the city wastewater system, except for lots that have unique topographic or other natural features that make gravity wastewater extension impractical as determined by the director. Where gravity service is impractical, the developer shall provide all necessary pumps/lift stations and other improvements, as determined by the director.
3. All developments shall be required to be linked to existing wastewater collection facilities adequately sized to serve their intended area by the construction of wastewater lines which connect to existing adequately sized wastewater facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.
4. Specific location, size and capacity of wastewater facilities will be subject to the approval of the director with reference to the applicable wastewater master plan. All wastewater facilities shall be sized to provide adequate capacity during peak flows from the entire area potentially served by such facilities. Installation costs shall remain entirely the developer's responsibility.
5. Temporary wastewater service facilities, including pumping stations, will be permitted only if the director approves the temporary facilities, and the developer provides for all

facilities that are necessary for transition to permanent facilities.

6. The design of the wastewater facilities shall take into account provisions for the future extension beyond the development to serve upstream properties, which, in the judgment of the city, cannot be feasibly served otherwise.
7. Design, construction and material standards shall be as specified by the director for the construction of such wastewater facilities in the city.

Response: The wastewater infrastructure is shown on the Preliminary Utility Plan in Exhibit A, which demonstrated the proposed wastewater infrastructure is in conformance with the standards provided above.

- H. Easements. Easements for public and private utilities shall be provided as deemed necessary by the city, special districts, and utility companies. Easements for special purpose uses shall be of a width deemed appropriate by the responsible agency. Such easements shall be recorded on easement forms approved by the city and designated on the final plat of all subdivisions and partitions. Minimum required easement width and locations are as provided in the Newberg public works design and construction standards.

Response: Existing easements on the subject site are delineated on the preliminary plans in Exhibit A. New easements are not proposed or required as part of the proposed 4-unit industrial warehouse building complex. This standard does not apply.

15.505.050 Stormwater system standards.

- B. Applicability. The provisions of this section apply to all developments subject to site development review or land division review and to the reconstruction or expansion of such developments that increases the flow or changes the point of discharge to the city stormwater system. Additionally, the provisions of this section shall apply to all drainage facilities that impact any public storm drain system, public right-of-way or public easement, including but not limited to off-street parking and loading areas.

Response: This application involves a land use review for the construction of a new 4-unit industrial building complex. Therefore, this application is subject to the standards included in this section.

- C. General Requirement. All stormwater runoff shall be conveyed to a public storm wastewater or natural drainage channel having adequate capacity to carry the flow without overflowing or otherwise causing damage to public and/or private property. The developer shall pay all costs associated with designing and constructing the facilities necessary to meet this requirement.

Response: The preliminary plans in Exhibit A illustrate the proposed on-site stormwater management plan, which meets this requirement.

- D. Plan for Stormwater and Erosion Control. No construction of any facilities in a development included in subsection (B) of this section shall be permitted until an engineer registered in the State of Oregon

prepares a stormwater report and erosion control plan for the project. This plan shall contain at a minimum:

1. The methods to be used to minimize the amount of runoff, sedimentation, and pollution created from the development both during and after construction.
2. Plans for the construction of stormwater facilities and any other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the stormwater plans.
3. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included in the stormwater report and shall be stamped by a licensed professional engineer in the State of Oregon. Peak design discharges shall be computed based upon the design criteria outlined in the public works design and construction standards for the city.

Response: A preliminary stormwater report prepared by a licensed professional engineer in the State of Oregon, is included with this application in Exhibit D, which includes the information listed above. This standard is satisfied.

- E. **Development Standards.** Development subject to this section shall be planned, designed, constructed, and maintained in compliance with the Newberg public works design and construction standards.

Response: The proposed 4-unit industrial warehouse building complex and associated improvements included in this application is planned to be designed, constructed and maintained in compliance with the Newberg public works design and construction standards. This standard is satisfied.

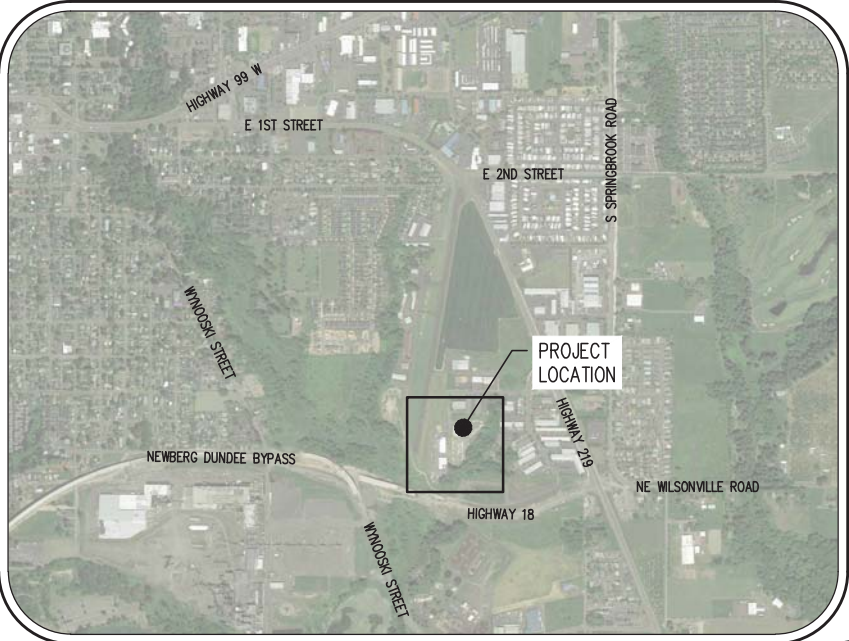
IV. Conclusion

The required findings have been made and this written narrative and accompanying documentation demonstrate the application is consistent with the applicable provisions of the City of Newberg Municipal Code and Comprehensive Plan. The evidence in the record is substantial and supports approval of the application.

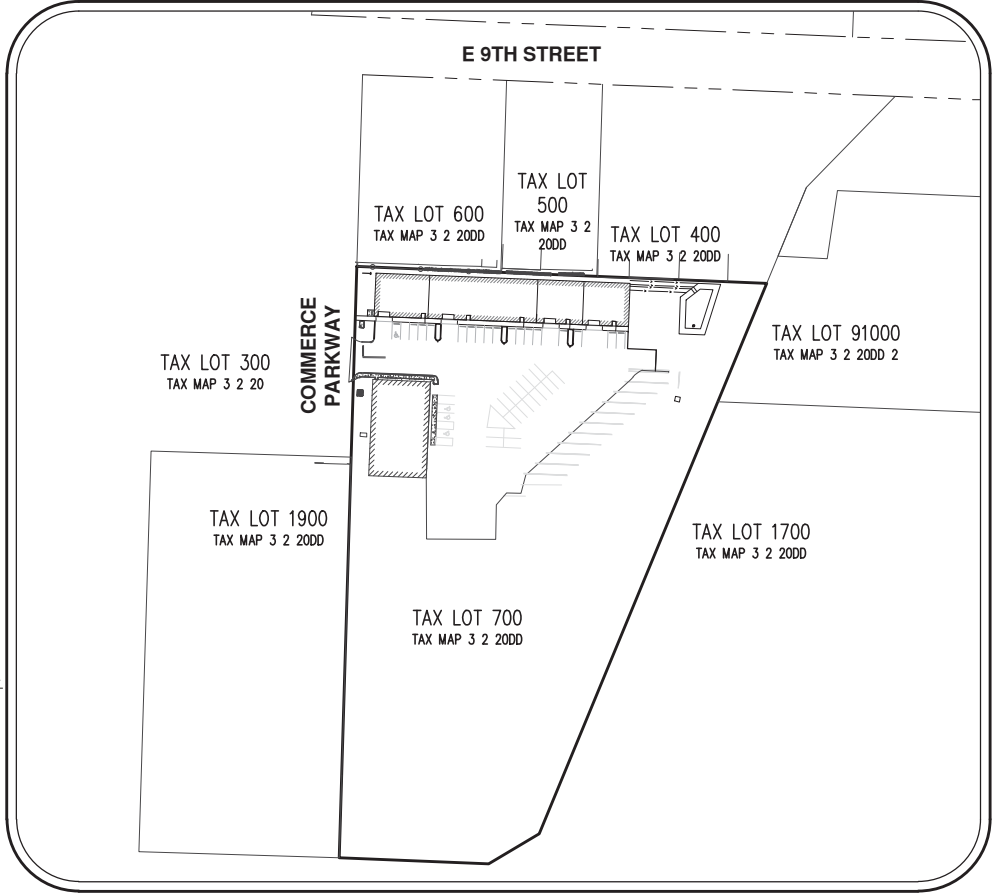
Exhibit A: Preliminary Development Plans

1000 COMMERCE PARKWAY

CIVIL ENGINEERING DESIGN REVIEW PLANS



VICINITY MAP
NOT TO SCALE



SITE MAP
SCALE 1" = 100'

PROPERTY DESCRIPTION:

YAMHILL COUNTY TAX MAP 3S 2W 20DD, TAX LOT 00700.
1000 COMMERCE PARKWAY, NEWBERG, OREGON

PROJECT PURPOSE:

NEW 12,320 SQUARE FOOT BUILDING AND ASSOCIATED PARKING IMPROVEMENTS

VERTICAL DATUM

VERTICAL DATUM: NAVD88 ELEVATIONS ARE BASED ON TRIMBLE NOW VRS.

EXISTING LAND USE:

M-2 LIGHT INDUSTRIAL

ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BUT NOT MORE THAN TEN BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.



CIVIL ENGINEERING/PLANNING/ LANDSCAPE ARCHITECTURE AND SURVEYING FIRM:

AKS ENGINEERING & FORESTRY
CONTACT: JASON WUERTZ, PE
12965 SW HERMAN ROAD
SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151
FAX: 503-563-6152

DEVELOPER/OWNER

AIRPARK BUSINESS COMPLEX, INC.
CONTACT: JASON DALE
504 NE AIRPARK WAY
NEWBERG, OR 97132
PH: 503-550-0852

UTILITY CONTACTS

POWER

PORTLAND GENERAL ELECTRIC
3700 SE 17TH AVENUE
PORTLAND, OR 97202
PH: 503-464-7777

GAS

NW NATURAL
220 NW 2ND AVENUE
PORTLAND, OR 97209
PH: 800-882-3377

COMMUNICATIONS

COMCAST CABLE
10831 SW CASCADE AVENUE
TIGARD, OR 97223
PH: 503-617-1212

COMMUNICATIONS

VERIZON (FRONTIER)
4155 SW CEDAR HILLS BLVD
BEAVERTON, OR 97005
PH: 877-462-8188

SHEET INDEX

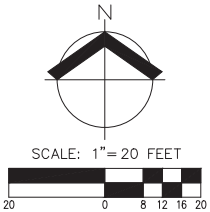
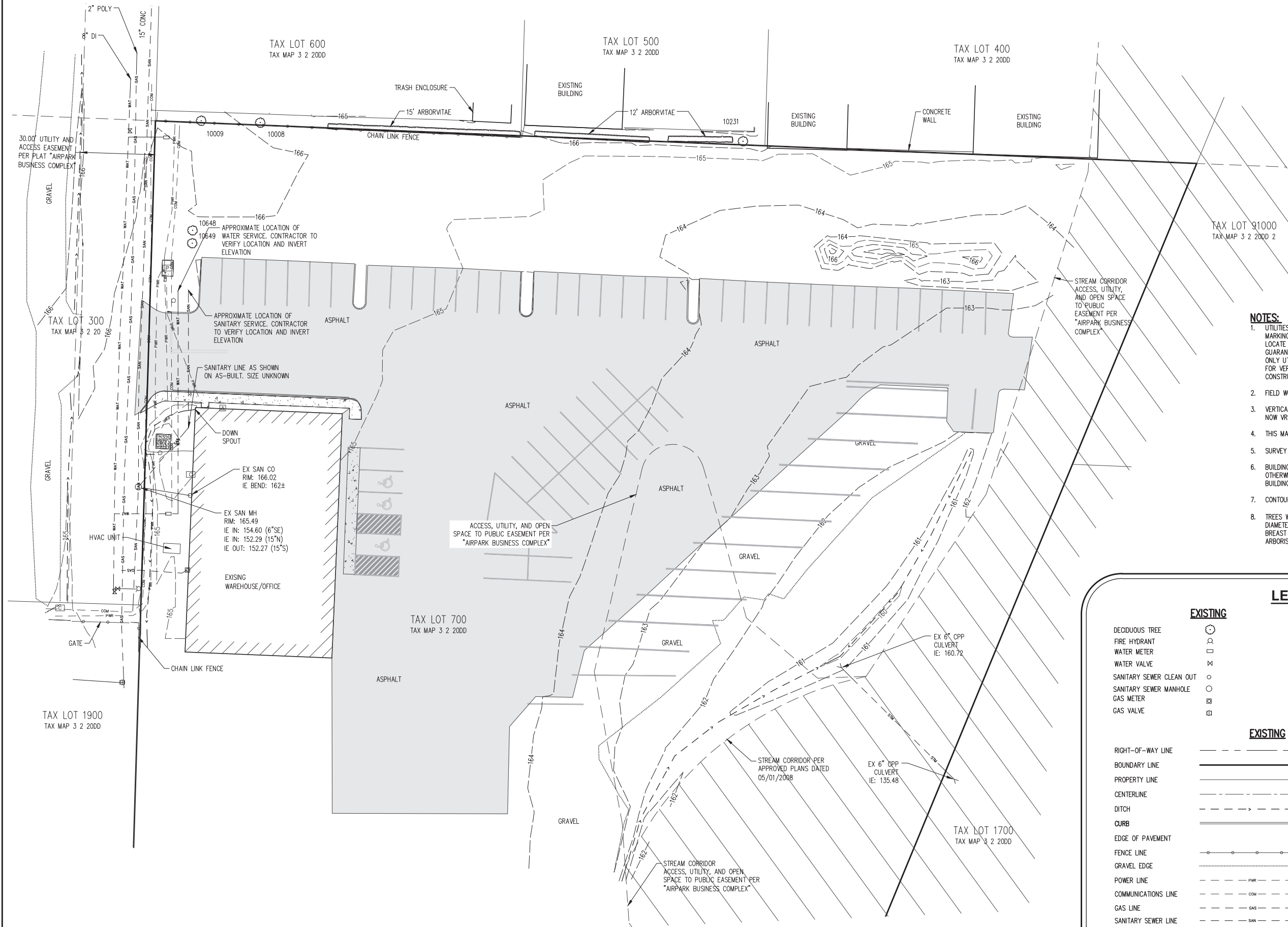
- C1 - COVER SHEET WITH VICINITY MAP, SITE MAP AND LEGEND
- C2 - EXISTING CONDITIONS PLAN
- C3 - PRELIMINARY DEMOLITION PLAN AND EROSION & SEDIMENT CONTROL PLAN
- C4 - PRELIMINARY GRADING PLAN
- C5 - PRELIMINARY SITE PLAN
- C6 - PRELIMINARY UTILITY PLAN
- C7 - PRELIMINARY DETAILS
- L1 - PRELIMINARY LANDSCAPE PLAN

COVER SHEET WITH
VICINITY MAP, SITE MAP
AND LEGEND

1000 COMMERCE PARKWAY
AIRPARK BUSINESS COMPLEX
NEWBERG
TAXMAP 3220DD
OR
TAXLOT 00700

DESIGNED BY: JAW
DRAWN BY: CRM
CHECKED BY: CEG
SCALE: AS NOTED
DATE: 10/31/2018
RENEWAL DATE: 06/30/2020
REVISIONS:
JOB NUMBER
6523
SHEET
C1

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aks-eng.com
ENGINEERING • SURVEYING • NATURAL RESOURCES
FORESTRY • PLANNING • LANDSCAPE ARCHITECTURE



TREE TABLE		
TREE NUMBER	TYPE	DBH (IN.)
10008	DECIDUOUS	13
10009	DECIDUOUS	14
10231	DECIDUOUS	6
10648	DECIDUOUS	6
10649	DECIDUOUS	6

- NOTES:**
- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 18009945. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
 - FIELD WORK WAS CONDUCTED JANUARY 15-16, 2018.
 - VERTICAL DATUM: NAVD88 ELEVATIONS ARE BASED ON TRIMBLE NOW VRS.
 - THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
 - SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
 - BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
 - CONTOUR INTERVAL IS 1 FOOT.
 - TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.

LEGEND	
EXISTING	EXISTING
DECIDUOUS TREE	POWER VAULT
FIRE HYDRANT	POWER JUNCTION BOX
WATER METER	POWER PEDESTAL
WATER VALVE	COMMUNICATIONS VAULT
SANITARY SEWER CLEAN OUT	COMMUNICATIONS JUNCTION BOX
SANITARY SEWER MANHOLE	COMMUNICATIONS RISER
GAS METER	
GAS VALVE	
EXISTING	
RIGHT-OF-WAY LINE	
BOUNDARY LINE	
PROPERTY LINE	
CENTERLINE	
DITCH	
CURB	
EDGE OF PAVEMENT	
FENCE LINE	
GRAVEL EDGE	
POWER LINE	
COMMUNICATIONS LINE	
GAS LINE	
SANITARY SEWER LINE	
WATER LINE	

1000 COMMERCE PARKWAY
AIRPARK BUSINESS COMPLEX
NEWBERG
TAX LOT 322000

EXISTING CONDITIONS
PLAN

DESIGNED BY:
DRAWN BY: TD
CHECKED BY: NW
SCALE: AS NOTED
DATE: 10/31/2018

PRELIMINARY
NOT FOR
CONSTRUCTION

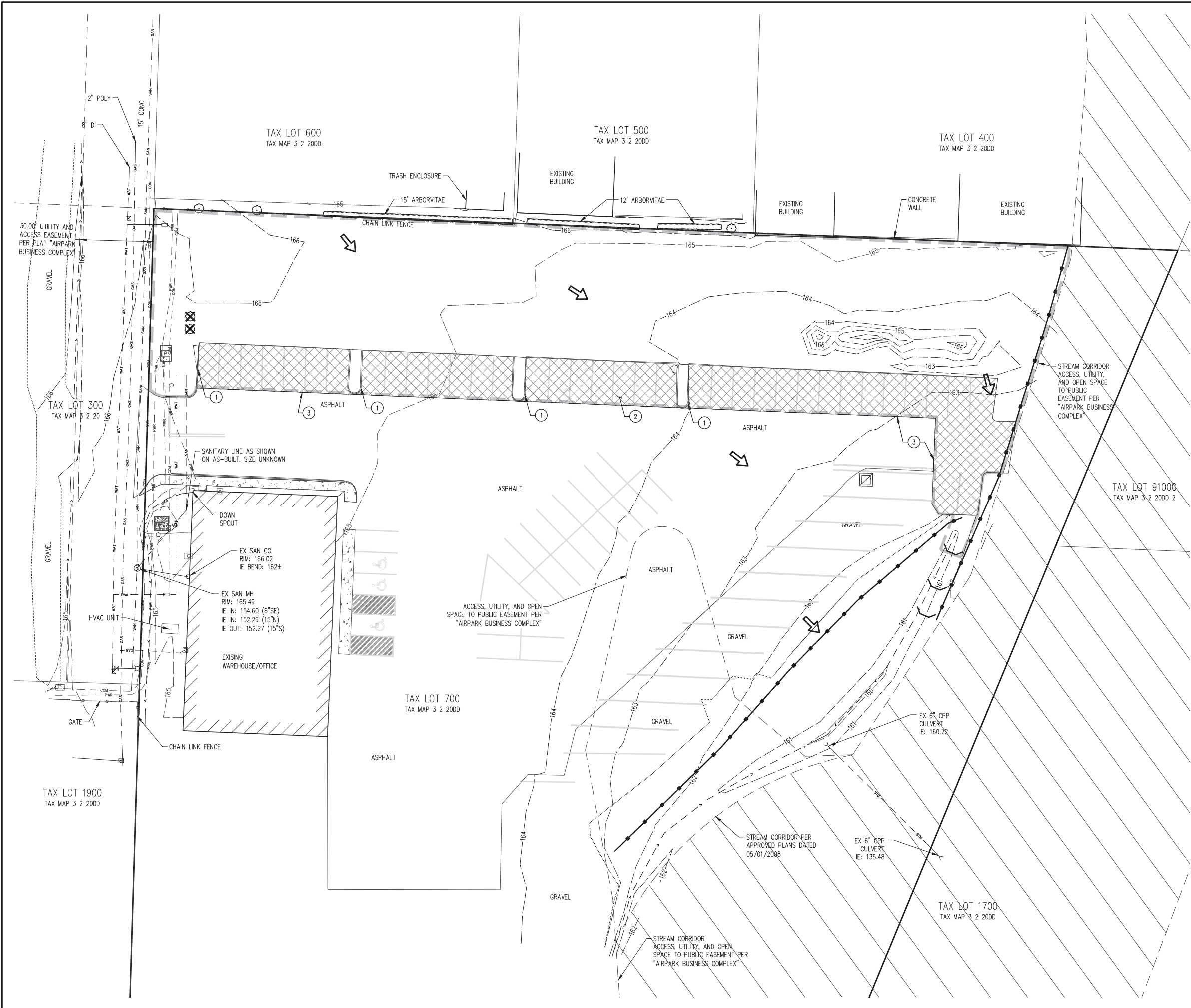
REVISIONS

JOB NUMBER
6523

SHEET
C2

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AKS DRAWING FILE: 6523_C3.DWG | LAYOUT: C3



LEGEND

EROSION CONTROL FENCE PER DETAIL 602

INLET PROTECTION

EXISTING AC TO BE REMOVED

SAWCUT LINE

DISTURBANCE AREA

EXISTING TREE TO BE REMOVED

EXISTING TREE TO REMAIN

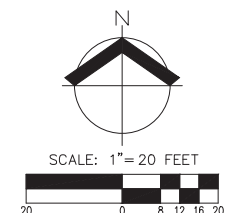
CONCRETE WASHOUT PER DETAIL 607

DRAINAGE FLOW DIRECTION

CHECK DAM BIO-FILTER BAG PER CWS DETAIL 845

- PRE-CONSTRUCTION, CLEARING, AND DEMOLITION NOTES:**
- ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
 - SEDIMENT BARRIERS APPROVED FOR USE INCLUDE SEDIMENT FENCE, BERMS CONSTRUCTED OUT OF MULCH, CHIPPINGS, OR OTHER SUITABLE MATERIAL, STRAW WATTLES, OR OTHER APPROVED MATERIALS.
 - SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE IN THE AREA. NO ACTIVITIES ARE PERMITTED TO OCCUR BEYOND THE CONSTRUCTION BARRIER.
 - CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, STREET SWEEPING, AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
 - RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, AND BANK STABILIZATION.

- DEMO KEY NOTES:**
- REMOVE EXISTING CONCRETE CURB
 - REMOVE EXISTING AC AND BASE ROCK
 - SAWCUT



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1000 COMMERCE PARKWAY
AIRPARK BUSINESS COMPLEX
NEWBERG
TAXMAP 32200

OR
TAXLOT 00700

**PRELIMINARY DEMOLITION
PLAN AND EROSION &
SEDIMENT CONTROL PLAN**

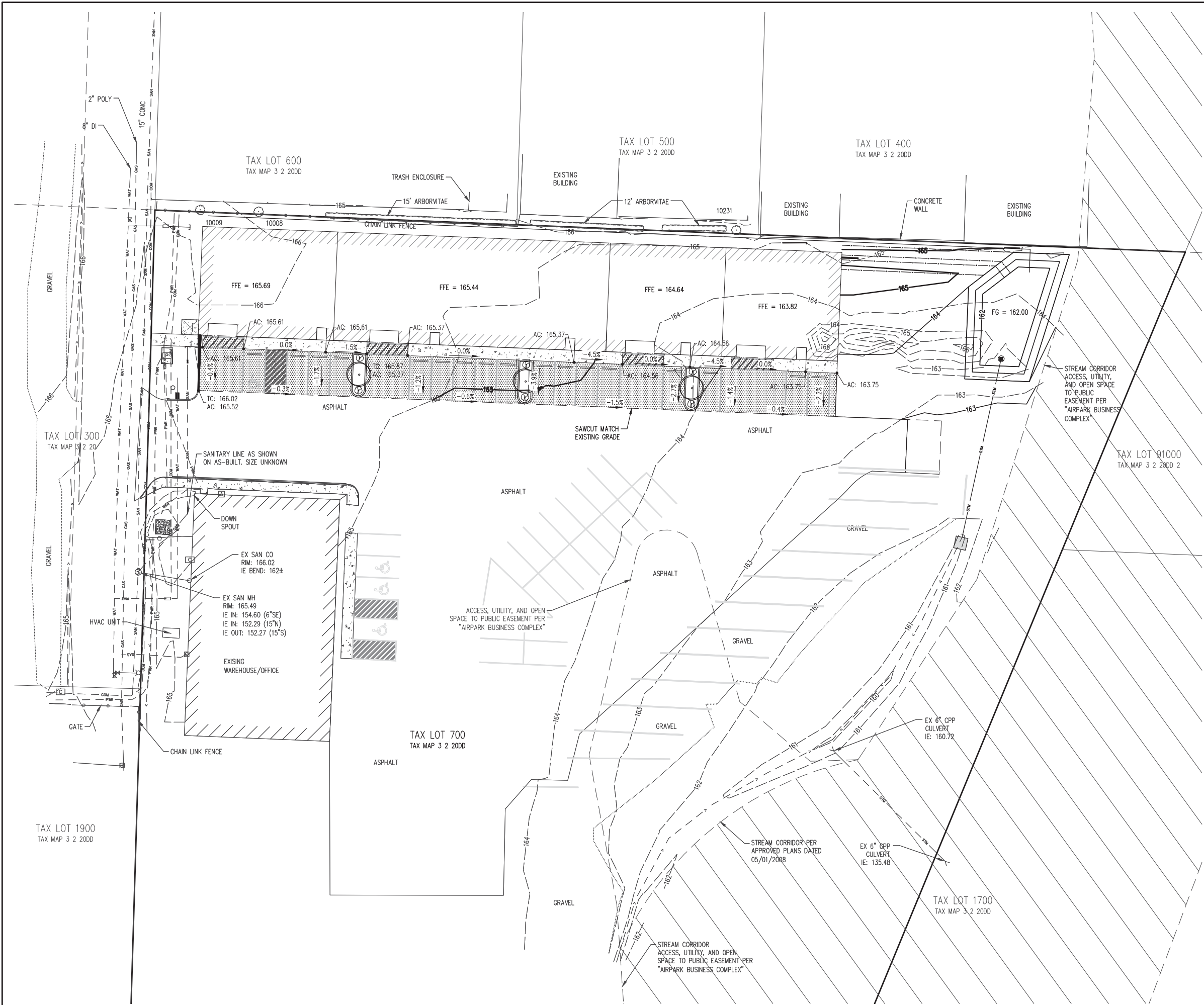
DESIGNED BY: JAW
DRAWN BY: CRM
CHECKED BY: CEG
SCALE: AS NOTED
DATE: 10/31/2018

RENEWAL DATE: 06/30/2020
REVISIONS:

JOB NUMBER
6523

SHEET
C3

AKS DRAWING FILE: 6523 CALDWING | LAYOUT: C4



LEGEND	
ASPHALT CONCRETE	AC:100.00
TOP OF CURB	TC:100.00
FINISHED FLOOR ELEVATION	FFE:100.00
FINISHED GRADE	FG:100.00
EXISTING GRADE	(EG:100.00)
EXISTING GROUND CONTOUR (1FT)	---164---
EXISTING GROUND CONTOUR (5FT)	---165---
FINISHED GRADE CONTOUR (1FT)	---164---
FINISHED GRADE CONTOUR (5FT)	---165---
SAWCUT LINE	---

AKS
AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
NEWBERG, OR 97132
P: 503.363.6181
F: 503.363.6192
aks-eng.com

ENGINEERING • SURVEYING • NATURAL RESOURCES
FORESTRY • PLANNING • LANDSCAPE ARCHITECTURE

1000 COMMERCE PARKWAY
AIRPARK BUSINESS COMPLEX
NEWBERG
TAX MAP 32200

OR
TAX LOT 00700

PRELIMINARY GRADING
PLAN

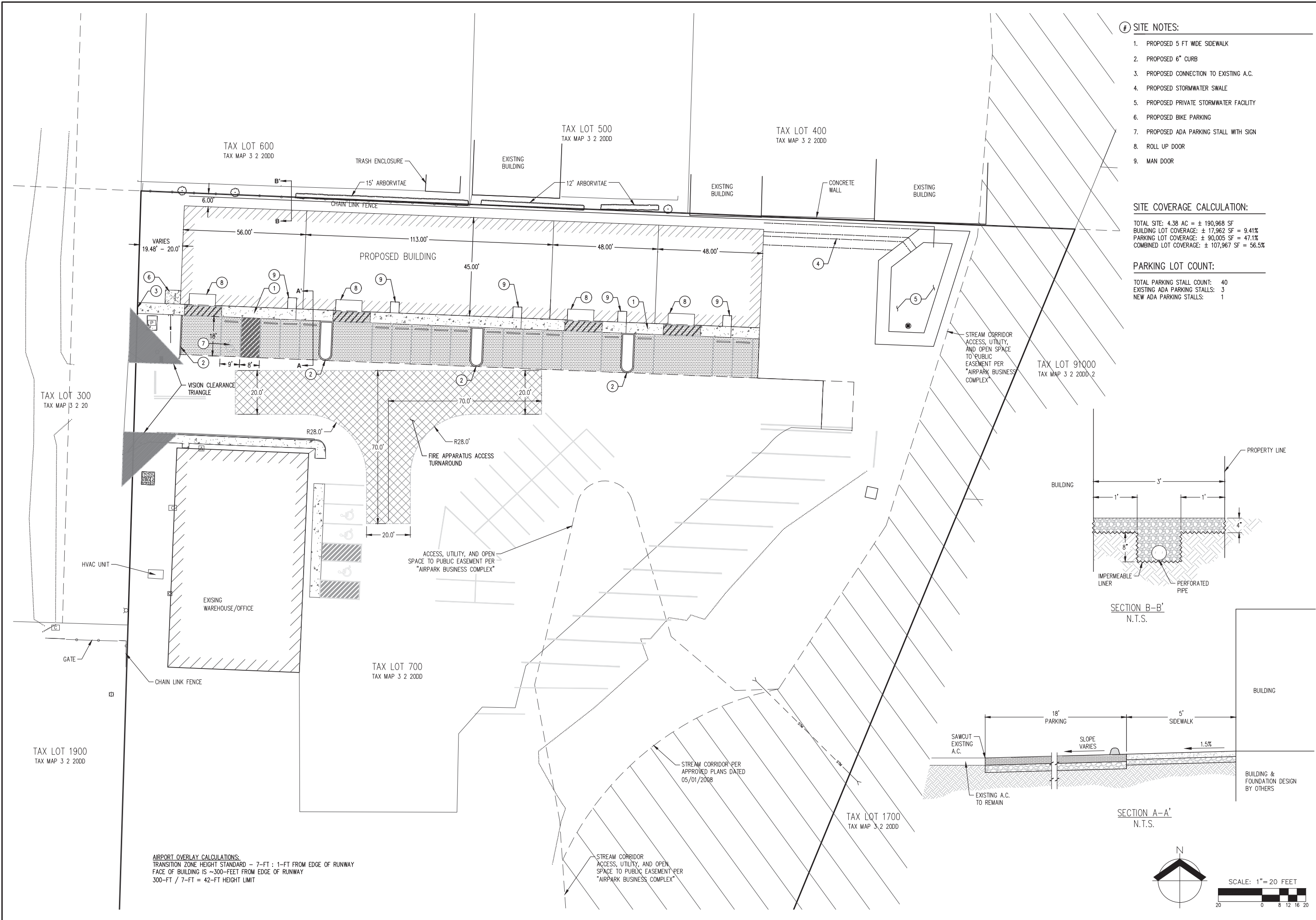
DESIGNED BY: JAW
DRAWN BY: CRM
CHECKED BY: CEG
SCALE: AS NOTED
DATE: 10/31/2018

REGISTERED PROFESSIONAL
ENGINEER
NO. 10000
JASON A. WUERTZ
RENEWAL DATE: 06/30/2020

REVISIONS

JOB NUMBER
6523

SHEET
C4



SITE NOTES:

1. PROPOSED 5 FT WIDE SIDEWALK
2. PROPOSED 6" CURB
3. PROPOSED CONNECTION TO EXISTING A.C.
4. PROPOSED STORMWATER SWALE
5. PROPOSED PRIVATE STORMWATER FACILITY
6. PROPOSED BIKE PARKING
7. PROPOSED ADA PARKING STALL WITH SIGN
8. ROLL UP DOOR
9. MAN DOOR

SITE COVERAGE CALCULATION:

TOTAL SITE: 4.38 AC = ± 190,968 SF
BUILDING LOT COVERAGE: ± 17,962 SF = 9.41%
PARKING LOT COVERAGE: ± 90,005 SF = 47.1%
COMBINED LOT COVERAGE: ± 107,967 SF = 56.5%

PARKING LOT COUNT:

TOTAL PARKING STALL COUNT: 40
EXISTING ADA PARKING STALLS: 3
NEW ADA PARKING STALLS: 1

1000 COMMERCE PARKWAY
AIRPARK BUSINESS COMPLEX
NEWBERG
TAXMAP 322000

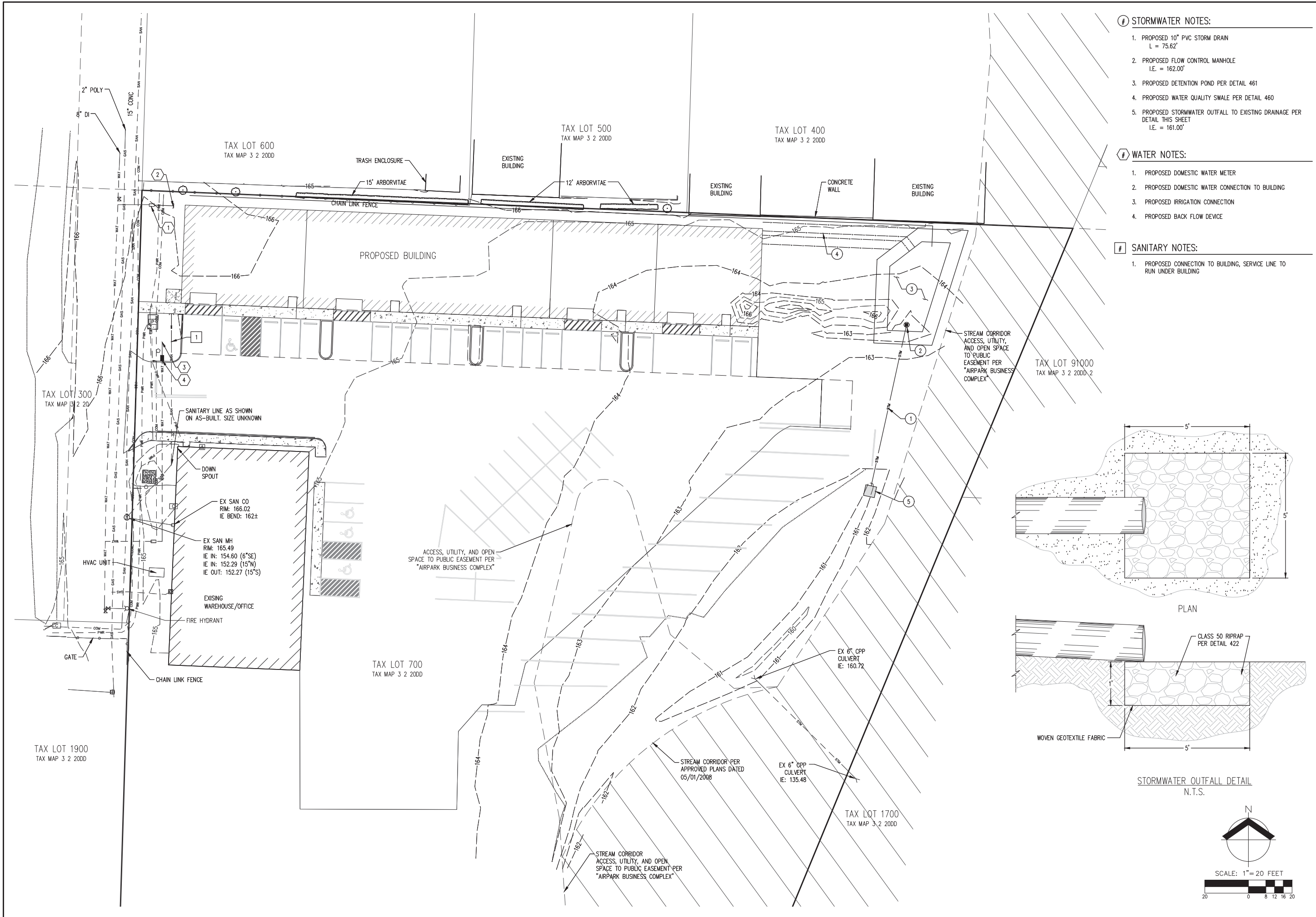
AKS
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PRELIMINARY SITE PLAN

DESIGNED BY: JAW
DRAWN BY: CRM
CHECKED BY: CEG
SCALE: AS NOTED
DATE: 10/31/2018
REGISTERED PROFESSIONAL ENGINEER
NOT FOR CONSTRUCTION
J. A. WUERT
RENEWAL DATE: 06/30/2020
REVISIONS

JOB NUMBER
6523
SHEET
C5



- STORMWATER NOTES:**
1. PROPOSED 10" PVC STORM DRAIN
L = 75.62'
 2. PROPOSED FLOW CONTROL MANHOLE
I.E. = 162.00'
 3. PROPOSED DETENTION POND PER DETAIL 461
 4. PROPOSED WATER QUALITY SWALE PER DETAIL 460
 5. PROPOSED STORMWATER OUTFALL TO EXISTING DRAINAGE PER
DETAIL THIS SHEET
I.E. = 161.00'
- WATER NOTES:**
1. PROPOSED DOMESTIC WATER METER
 2. PROPOSED DOMESTIC WATER CONNECTION TO BUILDING
 3. PROPOSED IRRIGATION CONNECTION
 4. PROPOSED BACK FLOW DEVICE
- SANITARY NOTES:**
1. PROPOSED CONNECTION TO BUILDING, SERVICE LINE TO
RUN UNDER BUILDING

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1000 COMMERCE PARKWAY
AIRPARK BUSINESS COMPLEX
NEWBERG
TAXMAP 322000

OR
TAXLOT 00700

PRELIMINARY UTILITY
PLAN

DESIGNED BY: JAW
DRAWN BY: CRM
CHECKED BY: CEG
SCALE: AS NOTED
DATE: 10/31/2018
REGISTERED PROFESSIONAL
ENGINEER
PRELIMINARY
NOT FOR
CONSTRUCTION
A. WURTE
RENEWAL DATE: 06/30/2020
REVISIONS
JOB NUMBER
6523
SHEET
C6

RIPRAP:

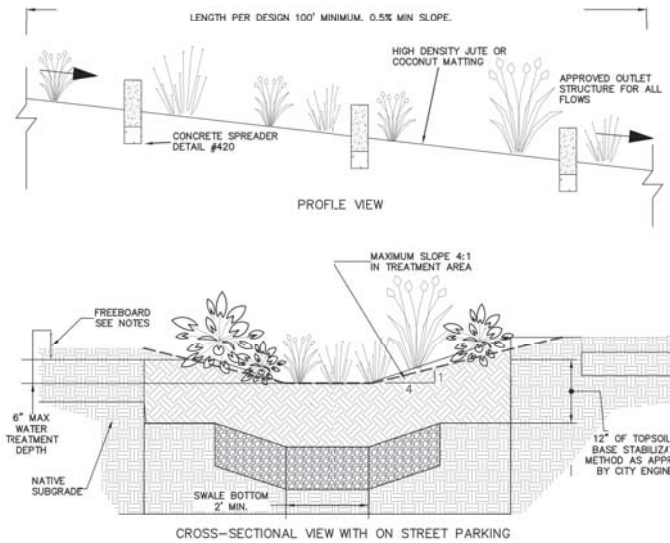
- ROCK FOR RIPRAP SHALL BE ANGULAR IN SHAPE.
- THICKNESS OF A SINGLE ROCK SHALL NOT BE LESS THAN ONE-THIRD ITS LENGTH.

RIPRAP INSTALLATION:

- EXCAVATE BELOW FINISH GRADE TO DEPTH & DIMENSIONS SHOWN ON APPROVED PLANS.
- INSTALL WOVEN GEOTEXTILE FABRIC.
- PLACE RIP RAP TO FINISH GRADE.

- GRADE RIPRAP SHALL BE THE CLASS AND SIZE OF ROCK ACCORDING TO THE FOLLOWING:

CLASS	CLASS	CLASS	CLASS	CLASS	
50	100	200	700	2000	
WEIGHT OF ROCK (LBS)					PERCENT (BY WEIGHT)
50-30	100-60	200-140	700-500	2000-1400	20
30-15	60-25	140-80	500-200	1400-700	30
15-2	25-2	80-8	200-20	700-40	40
2-0	2-0	8-0	20-0	40-0	10



HYDRAULIC DESIGN CRITERIA:

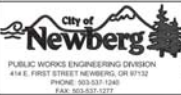
1. DESIGN FLOW: WATER QUALITY FLOW
2. MIN. HYDRAULIC RESIDENCE TIME: 9 MINUTES
3. MAXIMUM WATER DESIGN DEPTH: 0.5 FEET
4. MINIMUM FREE BOARD: 1.0 FOOT (FOR FACILITIES NOT NOT PROTECTED FROM HIGH FLOWS)
5. MANNING "n" VALUE: 0.24
6. MAXIMUM VELOCITY: 2.0 f/s BASED ON 25-YEAR FLOW

FACILITY DESIGN CRITERIA:

1. UP UNTIL THE MAX WATER SURFACE, INTERIOR SIDE SLOPES, MAX SLOPE IS 4H:1V
2. ABOVE MAX WATER SURFACE, INTERIOR SIDE SLOPES, MAX SLOPE IS 2H:1V
3. IF INTERIOR SIDE SLOPES MUST BE MOWED SIDE SLOPE THEN THE MAX SLOPE IS 4H:1V
4. EXTERIOR SIDE SLOPES MAX 2H:1V
5. MINIMUM FREEBOARD 1 FOOT FROM 25 YEAR DESIGN WATER SURFACE ELEVATION
6. PROVIDE AN ENERGY DISSIPATER AT THE ENTRANCE OF SWALE, WITH A MINIMUM LENGTH OF 4 FEET. IT WILL BE DESIGNED TO REDUCE VELOCITIES AND SPREAD THE FLOW ACROSS THE TREATMENT CROSS SECTION.

FACILITY DESIGN CRITERIA:

7. THE USE OF INTERMEDIATE FLOW SPREADERS IS REQUIRED. SPACING FOR CONCRETE SPREADERS TO BE DETERMINED BY DESIGN ENGINEER.
8. EXTEND RIVER ROCK, TOPSOIL, AND HIGH DENSITY JUTE OR COCONUT MATTING TO TOP OF TREATMENT AREA (OR WQV LEVEL). EXTEND TOPSOIL AND LOW DENSITY JUTE MATTING TO THE EDGE OF WATER QUALITY TRACT.
9. WHERE SWALES WRAP 180-DEGREES FORMING PARALLEL CHANNELS, FREEBOARD SHALL BE PROVIDED BETWEEN EACH OF THE PARALLEL CHANNELS. A 1 FOOT WALL ABOVE GROUND SURFACE MAY ALSO BE USED. ALTERNATIVE: A SOIL BASED BERM WITH A MIN. TOP WIDTH OF 1 FOOT & MAX 2.5H:1V SIDE SLOPES MAY BE USED.
10. WHERE SWALES ARE DESIGNED WITH DITCH INLETS & OUTLET STRUCTURES & DESIGN OF MAINTENANCE ACCESS TO SUCH STRUCTURES MAY BE DIFFICULT DUE TO SWALE LOCATION, SWALES MAYBE DESIGNED AS FLOW THROUGH FACILITIES WITH UNSUMPED STRUCTURES. MAINTENANCE ACCESS TO STRUCTURE END OF THE FACILITY IS REQUIRED.



REVISIONS:

RIPRAP

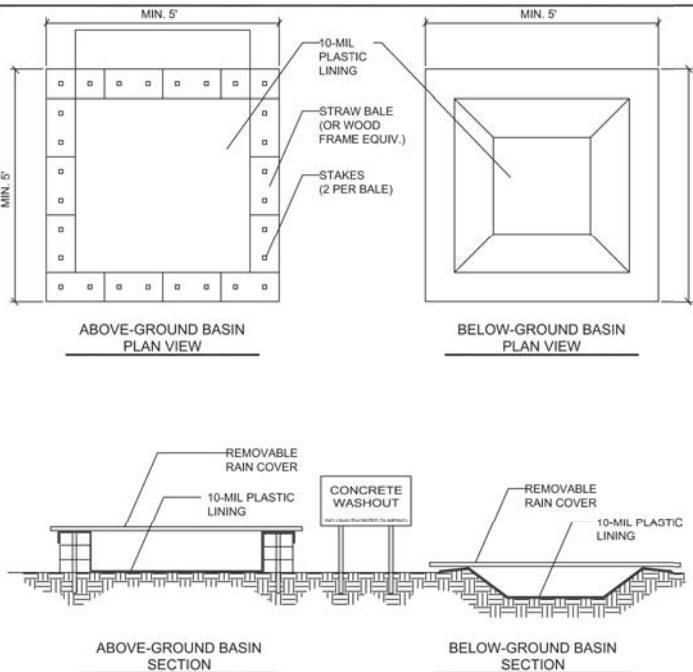
SCALE: N.T.S.
DATE: MARCH 2014
APPROVED BY: JAY H.
STANDARD DRAWING: 422



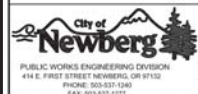
REVISIONS:

VEGETATED SWALE

SCALE: N.T.S.
DATE: MARCH 2014
APPROVED BY: JAY H.
STANDARD DRAWING: 460



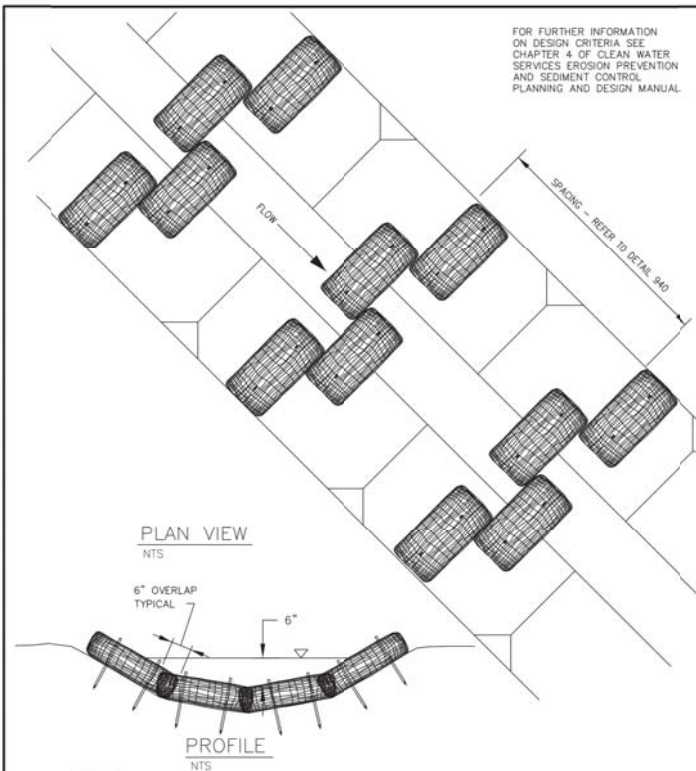
- NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
 2. "CONCRETE WASHOUT" SIGN TO BE LOCATED ADJACENT TO WASHOUT FACILITY.
 3. REMOVABLE RAIN COVER REQUIRED DURING WET WEATHER SEASON.



REVISIONS:
NA

CONCRETE WASTE MANAGEMENT

SCALE: N.T.S.
DATE: 01/10/2014
APPROVED BY:
STANDARD DRAWING: 607

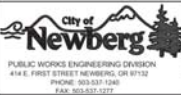


- NOTES:
1. STAKING OF BAGS REQUIRED USING (2) 1"x2" WOOD STAKES OR APPROVED EQUAL PER BAG.
 2. SURFACE MUST BE SMOOTH BEFORE APPLICATION.
 3. CHECK DAMS CAN BE CONSTRUCTED USING STRAW WATTLES OR OTHER MATERIALS AS APPROVED BY THE DISTRICT OR CITY.

CHECK DAM BIO-FILTER BAG

DRAWING NO. 845

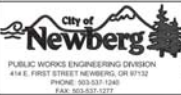
REVISED 12-16



REVISIONS:

EXTENDED DRY BASIN

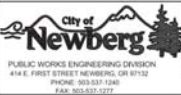
SCALE: N.T.S.
DATE: MARCH 2014
APPROVED BY: JAY H.
STANDARD DRAWING: 461



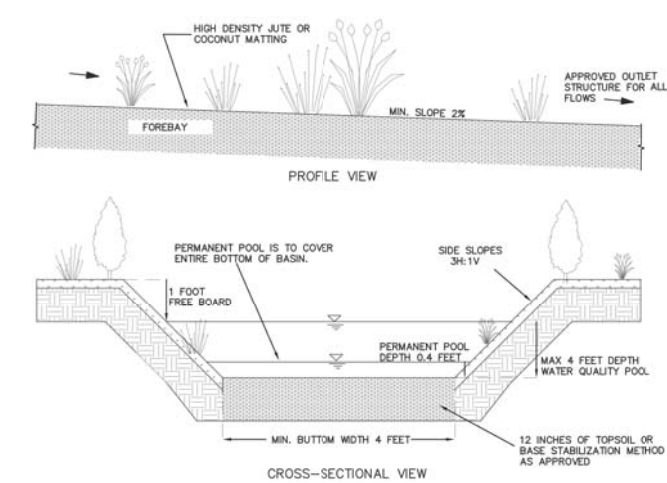
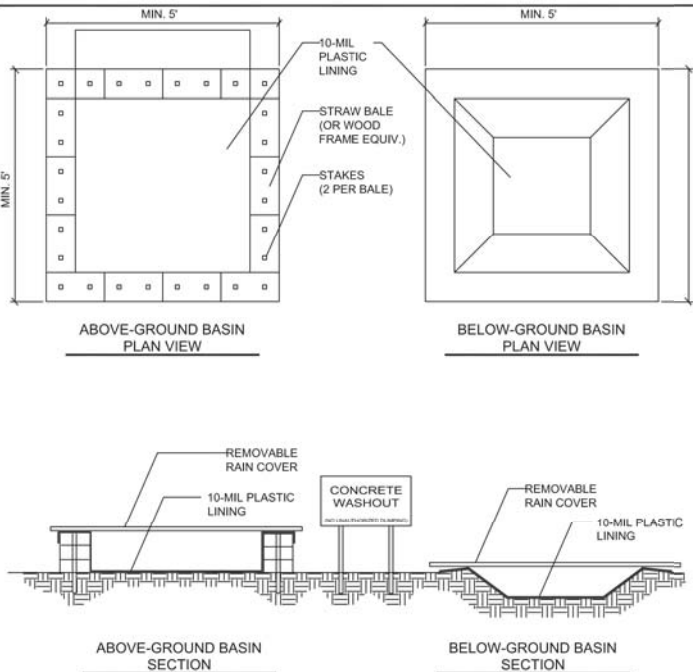
REVISIONS:

SILT FENCE

SCALE: N.T.S.
DATE: MAY 2007
APPROVED BY: D. DANICIC
STANDARD DRAWING: 602



REVISIONS:



HYDRAULIC DESIGN CRITERIA:

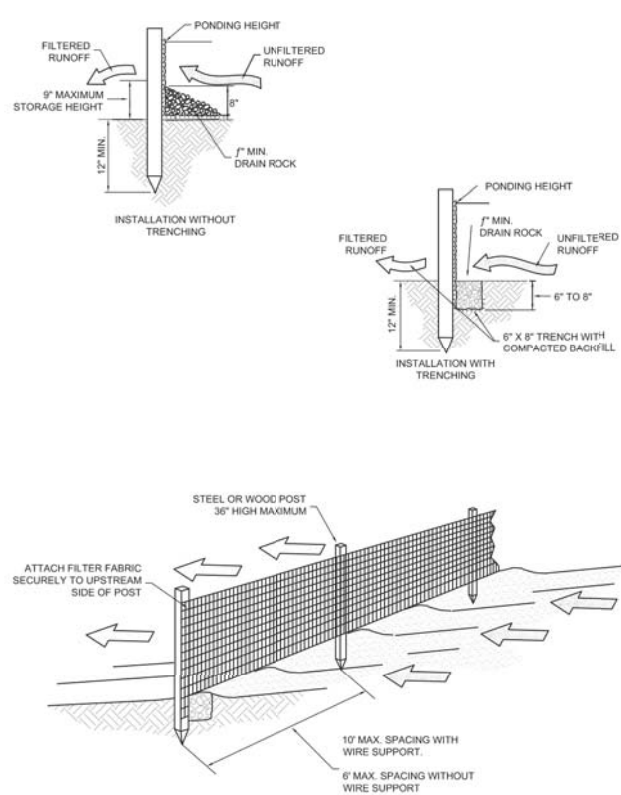
1. MIN. WATER QUALITY DETENTION VOLUME: 1.0 X WATER QUALITY VOLUME (WQV)
2. 48 HOURS WATER QUALITY DRAWDOWN TIME

FACILITY DESIGN CRITERIA:

1. UP UNTIL THE MAX WATER SURFACE, INTERIOR SIDE SLOPES, MAX SLOPE IS 3H:1V
2. ABOVE MAX WATER SURFACE, INTERIOR SIDE SLOPES, MAX SLOPE IS 2H:1V
3. IF INTERIOR SIDE SLOPES MUST BE MOWED SIDE SLOPE THEN THE MAX SLOPE IS 4H:1V
4. EXTERIOR SIDE SLOPES MAX 2H:1V, UNLESS ANALYZED FOR STABILITY BY A GEOTECHNICAL ENGINEER
5. MINIMUM FREEBOARD 1 FOOT FROM 25 YEAR DESIGN WATER SURFACE ELEVATION

FACILITY DESIGN CRITERIA:

6. MINIMUM OF 2 CELLS, WITH THE FIRST CELL (FOREBAY) AT LEAST 10% OF SURFACE AREA. THE FOREBAY SHALL ALSO CONSTITUTE 20-PERCENT OF THE TREATMENT VOLUME. WHERE SPACE LIMITS MULTI-CELL DESIGN, USE ONE CELL WITH A FOREBAY AT THE INLET TO SETTLE SEDIMENTS AND DISTRIBUTE FLOW ACROSS THE WET POND.
7. INLET AND OUTLET STRUCTURES SHALL BE DESIGNED TO AVOID DIRECT FLOW BETWEEN STRUCTURES WITHOUT RECEIVING TREATMENT (ie SHORT CIRCUITING OF FLOW)
8. MINIMUM FREEBOARD: 1 FOOT FROM 25 YEAR DESIGN WATER SURFACE ELEVATION.
9. EXTEND RIVER ROCK, TOPSOIL, AND HIGH DENSITY JUTE OR COCONUT MATTING TO TOP OF TREATMENT AREA (OR WQV LEVEL). EXTEND TOPSOIL AND LOW DENSITY JUTE MATTING TO THE EDGE OF WATER QUALITY TRACT OR EASEMENT AREA.
10. THE ENGINEER SHALL CERTIFY THAT THE POND STORM SEWER DESIGN WILL PASS THE 25 AND 100 YEAR STORM EVENTS AND THAT AT NORMAL DESIGN WATER SURFACE THAT THE UPSTREAM STORM SEWER WILL NOT BE IN A SURCHARGED CONDITION FOR LONGER THAN 24 HOURS.



1000 COMMERCE PARKWAY

AIRPARK BUSINESS COMPLEX

NEWBERG

PRELIMINARY DETAILS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SCALE: AS NOTED
DATE: 10/31/2018
RENEWAL DATE: 06/30/2020
REVISIONS:

JOB NUMBER
6523

SHEET

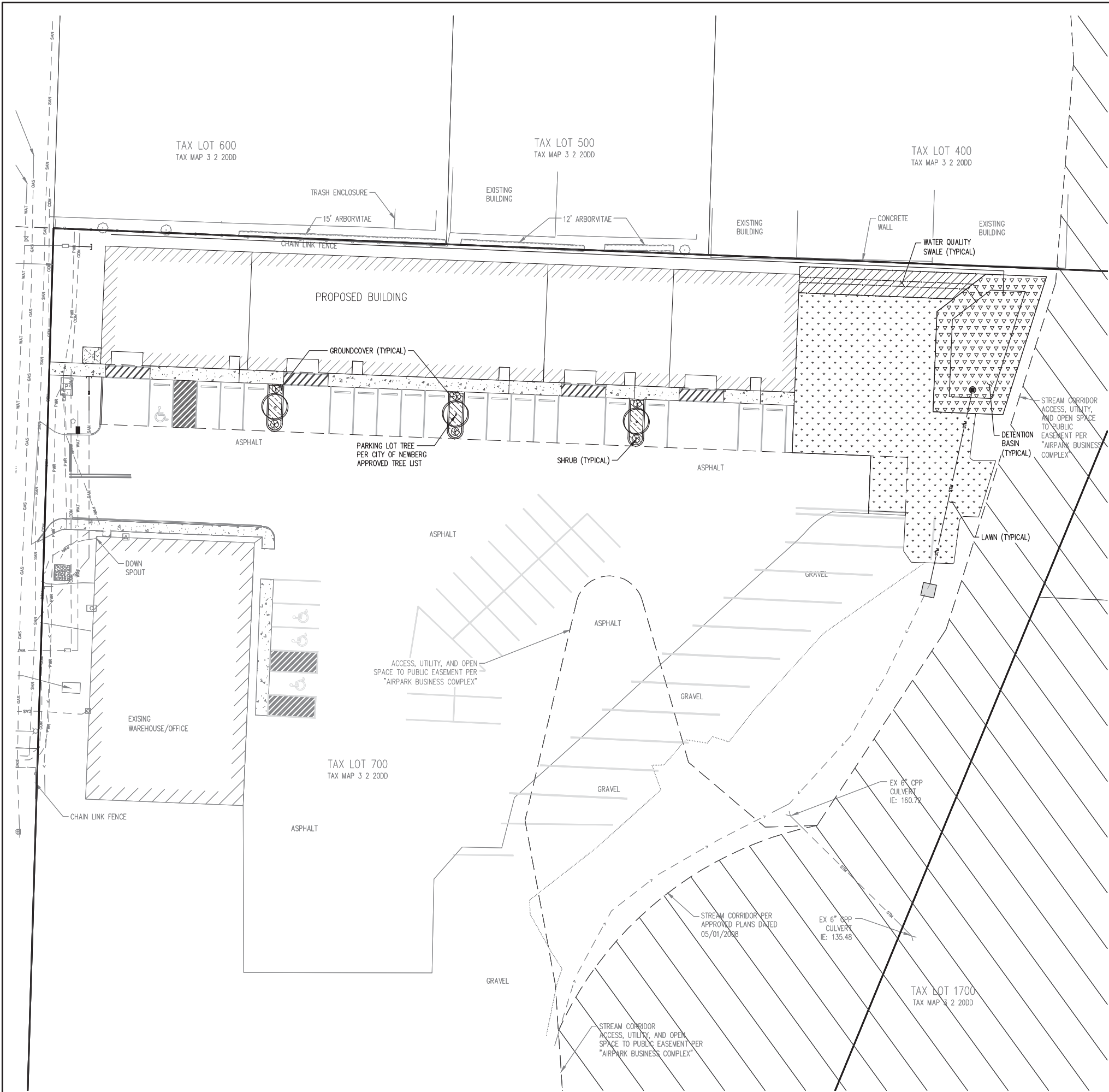
C7

OR TAXLOT 00700







AKS ENGINEERING & FORESTRY, LLC
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P: 503.563.6151
F: 503.563.6152
aks-eng.com

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AKS DRAWING FILE: 6523 L1.DWG | LAYOUT: L1

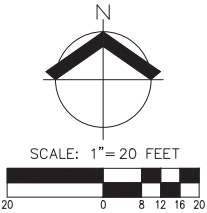


PLANT SCHEDULE

TREES	PLANT TYPE	SIZE/CONTAINER	SPACING
	PARKING LOT TREE PER CITY OF NEWBERG PLANT LIST	2" CAL. B&B	AS SHOWN
	SHRUB (TYPICAL)	2 GAL. CONT.	36" o.c.
GROUND COVERS		SIZE/CONTAINER	SPACING
	GROUND COVER	1 GAL. CONT.	30" o.c.
	LAWN		
	DETENTION BASIN - TO BE PLANTED PER CITY OF NEWBERG DESIGN STANDARDS MANUAL.		
	WATER QUALITY SWALE - TO BE PLANTED PER CITY OF NEWBERG DESIGN STANDARDS MANUAL.		

GENERAL NOTES:

- LANDSCAPE PLAN IS INTENDED TO PORTRAY CONCEPTUAL DESIGN INTENT. REVISIONS, INCLUDING CHANGES TO PLANT LOCATION, LAYOUT, SPECIES, SIZES, SPACING, QUANTITIES, CONDITION, ETC. MAY BE MADE WHERE ALLOWED BY CITY OF NEWBERG DESIGN STANDARDS.
- ALL PLANTS AND PLANTINGS SHALL CONFORM TO CITY OF NEWBERG LANDSCAPE DESIGN STANDARDS AND TO AMERICAN NURSERY STANDARDS ASN 1260.1. PLANT IN ACCORDANCE WITH BEST-PRACTICE INDUSTRY STANDARDS, SUCH AS THOSE ADOPTED BY THE OREGON LANDSCAPE CONTRACTOR'S BOARD (OLCB).
- DISTURBED LAWN AREAS TO BE RESTORED TO PRE-CONSTRUCTION CONDITIONS.
- IRRIGATION: WATER EFFICIENT, PERMANENT IRRIGATION SHALL BE PROVIDED IN ALL NEW LANDSCAPE AREAS.
- MAINTENANCE: ALL LANDSCAPE AREAS SHALL BE MAINTAINED FOR THE DURATION OF THE PLANTING TO ENCOURAGE HEALTH OF PLANT MATERIAL AS WELL AS PUBLIC HEALTH AND SAFETY. ALL TREES AND SHRUBS SHALL BE PRUNED TO MAINTAIN HEALTH AND STRUCTURE OF THE PLANT MATERIAL FOR PUBLIC SAFETY PURPOSES.



1000 COMMERCE PARKWAY
AIRPARK BUSINESS COMPLEX
NEWBERG
TAXMAP 322000

PRELIMINARY
LANDSCAPE PLAN

DESIGNED BY: JAW
DRAWN BY: CRM
CHECKED BY: CEG
SCALE: AS NOTED
DATE: 10/31/2018

PRELIMINARY
NOT FOR
CONSTRUCTION

REVISIONS

JOB NUMBER
6523

SHEET
L1

AKS
AKS ENGINEERING & FORESTRY, LLC
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ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE



Exhibit B: Application Forms



TYPE II APPLICATION (LAND USE) -- 2018

File #: _____

TYPES – PLEASE CHECK ONE:

- ☐ Design review
☐ Tentative Plan for Partition
☐ Tentative Plan for Subdivision

- ☐ Type II Major Modification
☐ Variance _____
☐ Other: (Explain) _____

APPLICANT INFORMATION:

APPLICANT: _____
ADDRESS: _____
EMAIL ADDRESS: _____
PHONE: _____ MOBILE: _____ FAX: _____
OWNER (if different from above): _____ PHONE: _____
ADDRESS: _____
ENGINEER/SURVEYOR: _____ PHONE: _____
ADDRESS: _____

GENERAL INFORMATION:

PROJECT NAME: _____ PROJECT LOCATION: _____
PROJECT VALUATION: _____
PROJECT DESCRIPTION/USE: _____
MAP/TAX LOT NO. (i.e. 3200AB-400): _____ ZONE: _____ SITE SIZE: _____ SQ. FT. ☐ ACRE ☒
COMP PLAN DESIGNATION: _____ TOPOGRAPHY: _____
CURRENT USE: _____
SURROUNDING USES:
NORTH: _____ SOUTH: _____
EAST: _____ WEST: _____

SPECIFIC PROJECT CRITERIA AND REQUIREMENTS ARE ATTACHED

General Checklist: ☐ Fees ☐ Public Notice Information ☐ Current Title Report ☐ Written Criteria Response ☐ Owner Signature

For detailed checklists, applicable criteria for the written criteria response, and number of copies per application type, turn to:

Design Reviewp. 12
Partition Tentative Platp. 14
Subdivision Tentative Platp. 17
Variance Checklistp. 20

The above statements and information herein contained are in all respects true, complete, and correct to the best of my knowledge and belief. Tentative plans must substantially conform to all standards, regulations, and procedures officially adopted by the City of Newberg. All owners must sign the application or submit letters of consent. Incomplete or missing information may delay the approval process.

Applicant Signature _____ Date _____

Owner Signature _____ Date _____

Print Name _____

Print Name _____

Attachments: General Information, Fee Schedule, Criteria, Checklists

§15.220.050 - TYPE II DESIGN REVIEW CRITERIA

Type II Site Design Review applies to the following activities:

- Any new development or remodel which is not specifically identified within Newberg Development Code § 15.220.020(A)(1).
- Telecommunication facilities.

The following development activities are exempt from Type II standards:







- Replacement of an existing item such as a roof, floor, door, window or siding.
- Plumbing and/or mechanical alterations which are completely internal to an existing structure.

Provide a written response that specifies how your project meets the following criteria:

- (1) Design Compatibility. The proposed design review request incorporates an architectural design which is compatible with and/or superior to existing or proposed uses and structures in the surrounding area. This shall include, but not be limited to, building architecture, materials, colors, roof design, landscape design, and signage.
- (2) Parking and On-Site Circulation. Parking areas shall meet the requirements of NMC 15.440.010. Parking studies may be required to determine if adequate parking and circulation are provided for uses not specifically identified in NMC 15.440.010. Provisions shall be made to provide efficient and adequate on-site circulation without using the public streets as part of the parking lot circulation pattern. Parking areas shall be designed so that vehicles can efficiently enter and exit the public streets with a minimum impact on the functioning of the public street.
- (3) Setbacks and General Requirements. The proposal shall comply with NMC 15.415.010 through 15.415.060 dealing with height restrictions and public access; and NMC 15.405.010 through 15.405.040 and 15.410.010 through 15.410.070 dealing with setbacks, coverage, vision clearance, and yard requirements
- (4) Landscaping Requirements. The proposal shall comply with NMC 15.420.010 dealing with landscape requirements and landscape screening.
- (5) Signs. Signs shall comply with NMC 15.435.010 et seq. dealing with signs.
- (6) Manufactured Dwelling, Mobile Home and RV Parks. Manufactured dwelling and mobile home parks shall also comply with the standards listed in NMC 15.445.075 through 15.445.100 in addition to the other clear and objective criteria listed in this section. RV parks also shall comply with NMC 15.445.170 in addition to the other criteria listed in this section.
- (7) Zoning District Compliance. The proposed use shall be listed as a permitted or conditionally permitted use in the zoning district in which it is located as found in NMC 15.305.010 through 15.336.020. Through this site review process, the director may make a determination that a use is determined to be similar to those listed in the applicable zoning district, if it is not already specifically listed. In this case, the director shall make a finding that the use shall not have any different or more detrimental effects upon the adjoining neighborhood area than those specifically listed.
- (8) Sub district Compliance. Properties located within subdistricts shall comply with the provisions of those subdistricts located in NMC 15.340.010 through 15.348.060.
- (9) Alternative Circulation, Roadway Frontage Improvements and Utility Improvements. Where applicable, new developments shall provide for access for vehicles and pedestrians to adjacent properties which are currently developed or will be developed in the future. This may be accomplished through the provision of local public streets or private access and utility easements. At the time of development of a parcel, provisions shall be made to develop the adjacent street frontage in accordance with city street standards and the standards contained in the transportation plan. At the discretion of the city, these improvements may be deferred through use of a deferred improvement agreement or other form of security.
- (10) Traffic Study Improvements. If a traffic study is required, improvements identified in the traffic study shall be implemented as required by the director. [Ord. 2763 § 1 (Exh. A § 7), 9-16-13; Ord. 2747 § 1 (Exh. A § 5), 9-6-11; Ord. 2451, 12-2-96. Code 2001 § 151.194.]

DESIGN REVIEW CHECKLIST

The following items must be submitted with each application. Incomplete applications will not be processed. Incomplete or missing information may delay the review process. Check with the Planning Division regarding additional requirements for your project.

-  ☒ **FEES**
-  ☒ **PUBLIC NOTICE INFORMATION** – Draft of mailer notice and sign; mailing list of all properties within 500’.
-  ☒ **CURRENT TITLE REPORT** (within 60 days old)
-  ☒ **SUBMIT one original and three copies 8-1/2" x 11" or 11" x 17" reproducible document together with 20 copies of the following information. In addition, submit two (2) full size copies of all plans.**
-  ☒ **WRITTEN CRITERIA RESPONSE** – Address the criteria listed on page 12.
-  ☒ **SITE DEVELOPMENT PLAN.** Make sure the plans are prepared so that they are at least 8 ½ x 11 inches in size and the scale is standard, being 10, 20, 30, 40, 50, 100 or multiples of 100 to the inch (such as 1":10', 1":20' or other multiples of 10). Include the following information in the plan set (information may be shown on multiple pages):
 - ☐ Existing Site Features: Show existing landscaping, grades, slopes, wetlands and structures on the site and for areas within 100' of the site. Indicate items to be preserved and removed.
 - ☐ Drainage & Grading: Show the direction and location of on and off-site drainage on the plans. This shall include site drainage, parking lot drainage, size and location of storm drain lines, and any retention or detention facilities necessary for the project. Provide an engineered grading plan if necessary. A preliminary storm water report is required (see Public works Design and Construction standards).
 - ☐ Utilities: Show the location of and access to all public and private utilities, including sewer, water, storm water and any overhead utilities.
 - ☐ Public Improvements: Indicate any public improvements that will be constructed as part of the project, including sidewalks, roadways, and utilities.
 - ☐ Access, Parking, and Circulation: Show proposed vehicular and pedestrian circulation, parking spaces, parking aisles, and the location and number of access points from adjacent streets. Provide dimensions for parking aisles, back-up areas, and other items as appropriate. Indicate where required bicycle parking will be provided on the site along with the dimensions of the parking spaces.
 - ☐ Site Features: Indicate the location and design of all on-site buildings and other facilities such as mail delivery, trash disposal, above ground utilities, loading areas, and outdoor recreation areas. Include appropriate buffering and screening as required by the code.
 - ☐ Exterior Lighting Plan: Show all exterior lighting, including the direction of the lighting, size and type of fixtures, and an indication of the amount of lighting using foot candles for analysis.
 - ☐ Landscape Plan: Include a comprehensive plan that indicates the size, species and locations of all planned landscaping for the site. The landscape plan should have a legend that indicates the common and botanical names of plants, quantity and spacing, size (caliper, height, or container size), planned landscaping materials, and description of the irrigation system. Include a calculation of the percentage of landscaped area.
 - ☐ ADA Plan Compliance: Indicate compliance with any applicable ADA provisions, including the location of accessible parking spaces, accessible routes from the entrance to the public way, and ramps for wheelchairs.
 - ☐ Architectural Drawings: Provide floor plans and elevations for all planned structures.
 - ☐ Signs and Graphics: Show the location, size, colors, materials, and lighting of all exterior signs, graphics or other informational or directional features if applicable.
 - ☐ Other: Show any other site elements which will assist in the evaluation of the site and the project.

TRAFFIC STUDY

A traffic study shall be submitted for any project that generates in excess of forty (40) trips per p.m. peak hour. This requirement may be waived by the Director when a determination is made that a previous traffic study adequately addresses the proposal and/or when off-site and frontage improvements have already been completed which adequately mitigate any traffic impacts and/or the proposed use is not in a location which is adjacent to an intersection which is functioning at a poor level of service. A traffic study may be required by the

Director for projects below forty (40) trips per p.m. peak hour where the use is located immediately adjacent to an intersection functioning at a poor level of service.

Exhibit C: Property Ownership Information



1433 SW 6th Avenue
(503)646-4444

OWNERSHIP AND ENCUMBRANCES REPORT WITH GENERAL INDEX LIENS
Informational Report of Ownership and Monetary and Non-Monetary Encumbrances

To ("Customer"): AKS Engineering & Forestry, LLC
12965 SW Herman Road, Suite 100
Tualatin, OR 97062

Customer Ref.: 1000 Commerce Parkway
Order No.: 471818069165
Effective Date: February 15, 2018 at 08:00 AM
Charge: \$400.00

The information contained in this report is furnished by Ticor Title Company of Oregon (the "Company") as a real property information service based on the records and indices maintained by the Company for the county identified below. THIS IS NOT TITLE INSURANCE OR A PRELIMINARY TITLE REPORT FOR, OR COMMITMENT FOR, TITLE INSURANCE. No examination has been made of the title to the herein described property, other than as specifically set forth herein. Liability for any loss arising from errors and/or omissions is limited to the lesser of the charge or the actual loss, and the Company will have no greater liability by reason of this report. THIS REPORT IS SUBJECT TO THE LIMITATIONS OF LIABILITY STATED BELOW, WHICH LIMITATIONS OF LIABILITY ARE A PART OF THIS REPORT.

THIS REPORT INCLUDES MONETARY AND NON-MONETARY ENCUMBRANCES.

Part One - Ownership and Property Description

Owner. The apparent vested owner of property ("the Property") as of the Effective Date is:

Airpark Business Complex, Inc., an Oregon corporation

Premises. The Property is:

(a) Street Address:

1000 Commerce Parkway, Newberg, OR 97132

(b) Legal Description:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

Part Two - Encumbrances

Encumbrances. As of the Effective Date, the Property appears subject to the following monetary and non-monetary encumbrances of record, not necessarily listed in order of priority, including liens specific to the subject property and general index liens (liens that are not property specific but affect any real property of the named person in the same county):

EXCEPTIONS

Note: Property taxes for the fiscal year shown below are paid in full.

Fiscal Year: 2017-2018
Amount: \$13,111.65
Levy Code: 29.0
Account No.: 487831
Map No.: R3220DD 00700

1. Personal Property Taxes, if any.
2. Existing leases and tenancies, if any, and any interests that may appear upon examination of such leases.
3. City Liens, if any, in favor of the City of Newberg.
4. Restrictions, but omitting restrictions, if any, based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income, as set forth in applicable state or federal laws, except to the extent that said restriction is permitted by applicable law, as shown on that certain plat

Name of Plat: Airpark Business Complex

5. Easement(s) for the purpose(s) shown below and rights incidental thereto as delineated or as offered for dedication, on the map of said tract/plat;

Purpose: Access, utilities, open space and slopes
Affects: Reference is made to the recorded plat for particulars

6. Covenants, conditions, restrictions and easements but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date: April 9, 1991
Recording No: Film Volume 267, Page 817

7. Waiver of Remonstrance and Consent to Local Improvement District:

Purpose: Streets, future streets or public utilities
Recording Date: April 9, 1992
Recording No.: Film Volume 267, Page 821

8. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws,

except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date: May 6, 2003
Recording No: 200310433

9. A deed of trust to secure an indebtedness in the amount shown below,

Amount: \$361,207.00
Dated: April 16, 2013
Trustor/Grantor: Airpark Business Complex, Inc., an Oregon corporation
Trustee: Fidelity National Title Company
Beneficiary: Columbia State Bank
Loan No.: 1302000880
Recording Date: April 23, 2013
Recording No.: 201306023

10. An assignment of all the moneys due, or to become due as rental, as additional security for the obligations secured by deed of trust shown as item no. 9

Assigned to: Columbia State Bank
Recording Date: April 23, 2013
Recording No: 201306024

11. A financing statement as follows:

Debtor: Airpark Business Complex, Inc.
Secured Party: Columbia State Bank
Recording Date: May 6, 2013
Recording No: 201306827

Note: This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances or acreage shown thereon.

According to the County Tax Rolls the address of the subject property is:

1050 Commerce Parkway, Newberg, OR 97132

End of Reported Information

There will be additional charges for additional information or copies. For questions or additional requests, contact:

Deborah Clark
503-535-3743
Deborah.Clark@titlegroup.fntg.com

Ticor Title Company of Oregon
1433 SW 6th Avenue
Portland, OR 97201

EXHIBIT "A"
Legal Description

Lots 17 and 18, AIRPARK BUSINESS COMPLEX, in the City of Newberg, County of Yamhill, State of Oregon.

LIMITATIONS OF LIABILITY

"CUSTOMER" REFERS TO THE RECIPIENT OF THIS REPORT.

CUSTOMER EXPRESSLY AGREES AND ACKNOWLEDGES THAT IT IS EXTREMELY DIFFICULT, IF NOT IMPOSSIBLE, TO DETERMINE THE EXTENT OF LOSS WHICH COULD ARISE FROM ERRORS OR OMISSIONS IN, OR THE COMPANY'S NEGLIGENCE IN PRODUCING, THE REQUESTED REPORT, HEREIN "THE REPORT." CUSTOMER RECOGNIZES THAT THE FEE CHARGED IS NOMINAL IN RELATION TO THE POTENTIAL LIABILITY WHICH COULD ARISE FROM SUCH ERRORS OR OMISSIONS OR NEGLIGENCE. THEREFORE, CUSTOMER UNDERSTANDS THAT THE COMPANY IS NOT WILLING TO PROCEED IN THE PREPARATION AND ISSUANCE OF THE REPORT UNLESS THE COMPANY'S LIABILITY IS STRICTLY LIMITED. CUSTOMER AGREES WITH THE PROPRIETY OF SUCH LIMITATION AND AGREES TO BE BOUND BY ITS TERMS

THE LIMITATIONS ARE AS FOLLOWS AND THE LIMITATIONS WILL SURVIVE THE CONTRACT:

ONLY MATTERS IDENTIFIED IN THIS REPORT AS THE SUBJECT OF THE REPORT ARE WITHIN ITS SCOPE. ALL OTHER MATTERS ARE OUTSIDE THE SCOPE OF THE REPORT.

CUSTOMER AGREES, AS PART OF THE CONSIDERATION FOR THE ISSUANCE OF THE REPORT AND TO THE FULLEST EXTENT PERMITTED BY LAW, TO LIMIT THE LIABILITY OF THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS AND ALL OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS FOR ANY AND ALL CLAIMS, LIABILITIES, CAUSES OF ACTION, LOSSES, COSTS, DAMAGES AND EXPENSES OF ANY NATURE WHATSOEVER, INCLUDING ATTORNEY'S FEES, HOWEVER ALLEGED OR ARISING, INCLUDING BUT NOT LIMITED TO THOSE ARISING FROM BREACH OF CONTRACT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF WARRANTY, EQUITY, THE COMMON LAW, STATUTE OR ANY OTHER THEORY OF RECOVERY, OR FROM ANY PERSON'S USE, MISUSE, OR INABILITY TO USE THE REPORT OR ANY OF THE MATERIALS CONTAINED THEREIN OR PRODUCED, **SO THAT THE TOTAL AGGREGATE LIABILITY OF THE COMPANY AND ITS AGENTS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS SHALL NOT IN ANY EVENT EXCEED THE COMPANY'S TOTAL FEE FOR THE REPORT.**

CUSTOMER AGREES THAT THE FOREGOING LIMITATION ON LIABILITY IS A TERM MATERIAL TO THE PRICE THE CUSTOMER IS PAYING, WHICH PRICE IS LOWER THAN WOULD OTHERWISE BE OFFERED TO THE CUSTOMER WITHOUT SAID TERM. CUSTOMER RECOGNIZES THAT THE COMPANY WOULD NOT ISSUE THE REPORT BUT FOR THIS CUSTOMER AGREEMENT, AS PART OF THE CONSIDERATION GIVEN FOR THE REPORT, TO THE FOREGOING LIMITATION OF LIABILITY AND THAT ANY SUCH LIABILITY IS CONDITIONED AND PREDICATED UPON THE FULL AND TIMELY PAYMENT OF THE COMPANY'S INVOICE FOR THE REPORT.

THE REPORT IS LIMITED IN SCOPE AND IS NOT AN ABSTRACT OF TITLE, TITLE OPINION, PRELIMINARY TITLE REPORT, TITLE REPORT, COMMITMENT TO ISSUE TITLE INSURANCE, OR A TITLE POLICY, AND SHOULD NOT BE RELIED UPON AS SUCH. THE REPORT DOES NOT PROVIDE OR OFFER ANY TITLE INSURANCE, LIABILITY COVERAGE OR ERRORS AND OMISSIONS COVERAGE. THE REPORT IS NOT TO BE RELIED UPON AS A REPRESENTATION OF THE STATUS OF TITLE TO THE PROPERTY. THE COMPANY MAKES NO REPRESENTATIONS AS TO THE REPORT'S ACCURACY, DISCLAIMS ANY WARRANTY AS TO THE REPORT, ASSUMES NO DUTIES TO CUSTOMER, DOES NOT INTEND FOR CUSTOMER TO RELY ON THE REPORT, AND ASSUMES NO LIABILITY FOR ANY LOSS OCCURRING BY REASON OF RELIANCE ON THE REPORT OR OTHERWISE.

IF CUSTOMER (A) HAS OR WILL HAVE AN INSURABLE INTEREST IN THE SUBJECT REAL PROPERTY, (B) DOES NOT WISH TO LIMIT LIABILITY AS STATED HEREIN AND (C) DESIRES THAT ADDITIONAL LIABILITY BE ASSUMED BY THE COMPANY, THEN CUSTOMER MAY REQUEST AND PURCHASE A POLICY OF TITLE INSURANCE, A BINDER, OR A COMMITMENT TO ISSUE A POLICY OF TITLE INSURANCE. NO ASSURANCE IS GIVEN AS TO THE INSURABILITY OF THE TITLE OR STATUS OF TITLE. CUSTOMER EXPRESSLY AGREES AND ACKNOWLEDGES IT HAS AN INDEPENDENT DUTY TO ENSURE AND/OR RESEARCH THE ACCURACY OF ANY INFORMATION OBTAINED FROM THE COMPANY OR ANY PRODUCT OR SERVICE PURCHASED.

NO THIRD PARTY IS PERMITTED TO USE OR RELY UPON THE INFORMATION SET FORTH IN THE REPORT, AND NO LIABILITY TO ANY THIRD PARTY IS UNDERTAKEN BY THE COMPANY.

CUSTOMER AGREES THAT, TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT WILL THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS, AND ALL OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES AND SUBCONTRACTORS BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT, PUNITIVE, EXEMPLARY, OR SPECIAL DAMAGES, OR LOSS OF PROFITS, REVENUE, INCOME, SAVINGS, DATA, BUSINESS, OPPORTUNITY, OR GOODWILL, PAIN AND SUFFERING, EMOTIONAL DISTRESS, NON-OPERATION OR INCREASED EXPENSE OF OPERATION, BUSINESS INTERRUPTION OR DELAY, COST OF CAPITAL, OR COST OF REPLACEMENT PRODUCTS OR SERVICES, REGARDLESS OF WHETHER SUCH LIABILITY IS BASED ON BREACH OF CONTRACT, TORT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTIES, FAILURE OF ESSENTIAL PURPOSE, OR OTHERWISE AND WHETHER CAUSED BY NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF CONTRACT, BREACH OF WARRANTY, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE OR ANY OTHER CAUSE WHATSOEVER, AND EVEN IF THE COMPANY HAS BEEN ADVISED OF THE LIKELIHOOD OF SUCH DAMAGES OR KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY FOR SUCH DAMAGES.

END OF THE LIMITATIONS OF LIABILITY

1992 APR -9 PM 3:56

F267P0821

WAIVER OF RIGHTS TO REMONSTRANCE
STREETS, FUTURE STREETS, OR PUBLIC UTILITIES
INCLUDING STORM SEWER, SANITARY SEWER AND WATER LINES

KNOW ALL MEN BY THESE PRESENTS, that the City of Newberg, a municipal corporation of the State of Oregon, hereinafter known as "City", and Donald R. Halbrook, President, Airpark Business Complex, Inc., the owners of the real property herein described, hereinafter referred to as "Owners", make the following agreement. The real property located in the City of Newberg, Yamhill County, Oregon is more fully described as follows:

See Attached Exhibit A

That the said real property is held upon the condition that in the event any streets, future streets, or public utilities, or any part thereof abutting upon said lots are constructed or improved in accordance with certain practices of the City upon petition of the property owners or upon resolution by the Council, no remonstrance to said proposed street or municipal utility improvements shall be made and such remonstrance is hereby waived.

The City and Owners agree that the Owners of said real property shall connect to said City public sewer system and pay all construction, connection, and system development charges in accordance with City standards and ordinances at such time as the City's sewer system is constructed to be within 100 feet of the subject property and the City so requests that the owners connect to said system.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

This Agreement shall constitute a covenant and restriction running with the land and shall be binding upon the undersigned, who are the legal owners of the real property, and shall bind their heirs, assigns and legal representatives.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 9th day of April, 1992.

AIRPARK BUSINESS COMPLEX, INC.

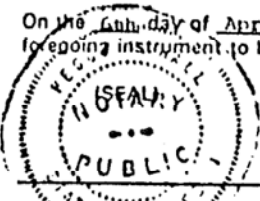
CITY OF NEWBERG

By: Donald R. Halbrook
Donald R. Halbrook
President

By: Duane R. Cole
Duane R. Cole
City Manager

STATE OF OREGON)
City of Newberg) ss.
COUNTY OF YAMHILL)

On the 9th day of April, 1992, personally appeared the above-named individual(s) and acknowledged the foregoing instrument to be his/her voluntary act and deed.



Donna R. Halbrook
Notary Public for Oregon
My Commission Expires: 11/21/92

003732

Grantor: Airpark Business Complex, Inc.
Donald R. Halbrook - President
2201 S. Second
Newberg OR 97132

Grantee: City of Newberg
414 E. First Street
Newberg OR 97132

STATE OF OREGON)
COUNTY OF YAMHILL) ss.

I hereby certify that this instrument
was received and duly recorded
by me in Yamhill County records.

Instrument #

Charles Stern
CHARLES STERN
COUNTY CLERK

Return to Grantee after recording c/o Newberg City Attorney, File No: 5-1-91

4-9-91

1992 APR -9 PII 3: 56

F267P0822

EXHIBIT A

Beginning at a point on the South line of and 25.00 chains West and the SE corner of the original DLC of Richard Everest and wife, Claims No. 52, Notification No. 1474 in Township 3 South Range 2 West of the WM in Yamhill County, Oregon; thence North 12.82 chains; thence East to the Southwesterly margin of the Hillsboro-Silverton State Highway; thence South $21^{\circ}03'34''$ East along the Southwesterly margin of the said State Highway to its intersection with the South line of said Claim; thence West along the South line of said Claim to the place of beginning.

4-9-92

**NOTICE
REGARDING
CERTAIN DISCRIMINATORY RESTRICTIONS, IF APPLICABLE**

Omitted from the attached document is any covenant or restriction that is based upon, but not necessarily limited to, race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal law, except to the extent that such covenant or restriction is permitted by applicable law.

Oregon Version 20150707

1992 APR -9 PM 3:55

F267P0817

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS

for

AIRPARK BUSINESS COMPLEX

THIS DECLARATION made this 30 day of JANUARY, 1992, by
AIRPARK BUSINESS COMPLEX, INC., an Oregon corporation, hereinafter referred to as
"Developer".

WITNESSETH:

WHEREAS, Developer is the owner of certain real property described in this
Declaration, to-wit:

See Exhibit "A"

Beginning at a point on the South line of and 25.00 chains West and the SE corner of the original D.C. of Richard Everett and wife,
Claims No. 52, Notification No. 1474 in Township 3 South Range 2 West of the WM in Yamhill County, Oregon; thence North 12.82
chains, thence East to the Southwesterly margin of the Hillsboro-Silverton State Highway, thence South 21°03'34" East along the
Southwesterly margin of the said State Highway to its intersection with the South line of said Claim, thence West along the South line
of said Claim to the place of beginning.

NOW, THEREFORE, the Developer hereby declares that all of the said property is and
shall be held and conveyed upon and subject to the easements, conditions, covenants, restrictions
and reservations hereinafter set forth; all of which are for the purpose of enhancing and
protecting the value, desirability and attractiveness of said property. These easements,
covenants, restrictions, conditions and reservations shall constitute covenants running with the
land, and shall be binding upon all persons claiming under them, and also that these conditions,
covenants, restrictions, easements, and reservations shall inure to the benefit and be limitations
upon all future owners of said property or any interest therein.

Section 1. The real premises as above stated is being subdivided in accordance with the
rules and regulations of the City of Newberg. The property is known as AIRPARK
BUSINESS COMPLEX, it consists of eighteen (18) lots as per the duly filed plat as
recorded in Film Volume 3, Page 207; Records of Yamhill County, Oregon.

Section 2. A building set-back of not less than twenty (20) feet shall be required on the
lots abutting Hwy. 219.

Section 3. All lots abutting State Hwy. 219 shall have uniform landscaping and
screening in accordance with the approved landscaping plan approved by the City of
Newberg and on file at the Newberg Planning Department.

Page 1 of 3
DECLARATION OF COVENANTS, CONDITIONS
AND RESTRICTIONS
AIRPARK BUSINESS COMPLEX

NEWEST TIME COMPANY

4-9-92

Section 4. All lot owners of the subdivision shall pay their pro-rata share of the following costs based upon the lot area (square footage of the lots) for:

1. The widening of Hwy. 219 at the intersection of Ninth Street as may be required by the State Highway Department of the State of Oregon.
2. The cost of future installation of curb and sidewalk improvements along Hwy. 219 that abut the subdivision.

Section 5. Lot owners of Lots 5 and 6 of the subdivision, shall pay their pro-rata share of the street improvements of Mandy Lane to City standards when requested by the City based upon the lot area (square footage of the lots).

Section 6. Upon construction of a building on a lot, the owner of such lot agrees to construct sidewalks in accordance with the rules and regulations of the City of Newberg.

Section 7. Severability. Invalidity of any one of these covenants or restrictions by judgment or Court order shall in no wise affect any other provisions which shall remain in full force and effect.

Section 8. The covenants and restrictions of this Declaration shall run with and bind the land and shall insure to the benefit of and be enforceable by the Developer or the owner of any Lot subject to this Declaration, their respective legal representatives, heirs, successors and assigns, for a term of thirty (30) years from the date of this Declaration is recorded, after which time said covenants shall be automatically extended for successive periods of ten (10) years each. Any of the covenants and restrictions of this Declaration, except the easements herein granted, may be amended during the first thirty (30) year period by an instrument signed by members entitled to cast not less than ninety percent (90%) of the votes of the membership, and thereafter by an instrument signed by members entitled to cast not less than seventy-five percent (75%) of the total votes eligible to be cast. Provided, however, that any such amendment shall not be effective to amend said covenants and restrictions until such time as the City of Newberg approves such amendments.

Easements herein granted and reserved shall not be amended except by instrument signed and acknowledged by one hundred percent (100%) of the owners of the property concerned. All such amendments must be recorded in the appropriate deed records of Yamhill County, Oregon to be effective.

177.1.1

IN WITNESS WHEREOF, we have hereunto signed this document to have effect on the date indicated hereinabove by the authority vested.

AIRPARK BUSINESS COMPLEX, INC.

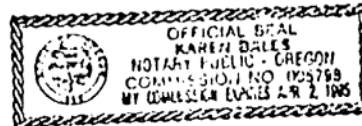
By *Sam Whitney*
Sam Whitney
President

DAVID F. ABBOTT, M.D., P.C.
RETIREMENT PLANS

By *David F. Abbott*
David F. Abbott
President

STATE OF OREGON)

COUNTY OF Yamhill)
:SS



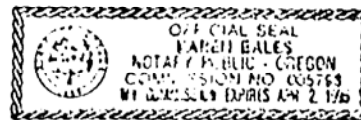
This instrument was acknowledged before me on January 30, 1992, by SAM WHITNEY, the President of AIRPARK BUSINESS COMPLEX, INC., an Oregon corporation, on behalf of said corporation, and asserts that he has the authority to execute this document on behalf of said corporation.

Karen Bales
Notary Public for Oregon

My Commission Expires: April 2, 1995

STATE OF OREGON)

COUNTY OF Yamhill)
:SS



This instrument was acknowledged before me on January 30, 1992, by David F. Abbott, the President of DAVID F. ABBOTT, M.D., P.C., RETIREMENT PLAN, an Oregon corporation, on behalf of said corporation and asserts that he has the authority to execute said document.

Karen Bales
Notary Public for Oregon

My Commission Expires: April 2, 1995

AFTER RECORDING, RETURN TO
Newberg City Attorney
414 E. First Street
Newberg, Oregon 97132

Page 3 of 3
DECLARATION OF COVENANTS, CONDITIONS
AND RESTRICTIONS
AIRPARK BUSINESS COMPLEX

176-6-4

1992 APR -9 PM 3:55

F267P0820

EXHIBIT A

Beginning at a point on the South line of and 25.00 chains West and the SE corner of the original DLC of Richard Everest and wife, Claims No. 52, Notification No. 1474 in Township 3 South Range 2 West of the WM in Yamhill County, Oregon; thence North 12.82 chains; thence East to the Southwesterly margin of the Hillsboro-Silverton State Highway; thence South 21°03'34" East along the Southwesterly margin of the said State Highway to its intersection with the South line of said Claim; thence West along the South line of said Claim to the place of beginning.

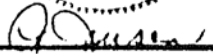
003731

STATE OF OREGON

COUNTY OF YAMHILL

I hereby certify that this instrument
was received and duly recorded
by me in Yamhill County records.

Instrument #


CHARLES STERN,
COUNTY CLERK

**NOTICE
REGARDING
CERTAIN DISCRIMINATORY RESTRICTIONS, IF APPLICABLE**

Omitted from the attached document is any covenant or restriction that is based upon, but not necessarily limited to, race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal law, except to the extent that such covenant or restriction is permitted by applicable law.

Oregon Version 20150707

1992 APR -9 PM 3:55

F267P0817

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS

for

AIRPARK BUSINESS COMPLEX

THIS DECLARATION made this 30 day of JANUARY, 1992, by
AIRPARK BUSINESS COMPLEX, INC., an Oregon corporation, hereinafter referred to as
"Developer".

WITNESSETH:

WHEREAS, Developer is the owner of certain real property described in this
Declaration, to-wit:

See Exhibit "A"

Beginning at a point on the South line of and 25.00 chains West and the SE corner of the original D.C. of Richard Everett and wife,
Claims No. 52, Notification No. 1474 in Township 3 South Range 2 West of the WM in Yamhill County, Oregon; thence North 12.82
chains, thence East to the Southwesterly margin of the Hillsboro-Silverton State Highway, thence South 21°03'34" East along the
Southwesterly margin of the said State Highway to its intersection with the South line of said Claim, thence West along the South line
of said Claim to the place of beginning.

NOW, THEREFORE, the Developer hereby declares that all of the said property is and
shall be held and conveyed upon and subject to the easements, conditions, covenants, restrictions
and reservations hereinafter set forth; all of which are for the purpose of enhancing and
protecting the value, desirability and attractiveness of said property. These easements,
covenants, restrictions, conditions and reservations shall constitute covenants running with the
land, and shall be binding upon all persons claiming under them, and also that these conditions,
covenants, restrictions, easements, and reservations shall inure to the benefit and be limitations
upon all future owners of said property or any interest therein.

Section 1. The real premises as above stated is being subdivided in accordance with the
rules and regulations of the City of Newberg. The property is known as AIRPARK
BUSINESS COMPLEX, it consists of eighteen (18) lots as per the duly filed plat as
recorded in Film Volume 3, Page 207; Records of Yamhill County, Oregon.

Section 2. A building set-back of not less than twenty (20) feet shall be required on the
lots abutting Hwy. 219.

Section 3. All lots abutting State Hwy. 219 shall have uniform landscaping and
screening in accordance with the approved landscaping plan approved by the City of
Newberg and on file at the Newberg Planning Department.

Page 1 of 3
DECLARATION OF COVENANTS, CONDITIONS
AND RESTRICTIONS
AIRPARK BUSINESS COMPLEX

NEWEST TIME COMPANY

4-9-92

Section 4. All lot owners of the subdivision shall pay their pro-rata share of the following costs based upon the lot area (square footage of the lots) for:

1. The widening of Hwy. 219 at the intersection of Ninth Street as may be required by the State Highway Department of the State of Oregon.
2. The cost of future installation of curb and sidewalk improvements along Hwy. 219 that abut the subdivision.

Section 5. Lot owners of Lots 5 and 6 of the subdivision, shall pay their pro-rata share of the street improvements of Mandy Lane to City standards when requested by the City based upon the lot area (square footage of the lots).

Section 6. Upon construction of a building on a lot, the owner of such lot agrees to construct sidewalks in accordance with the rules and regulations of the City of Newberg.

Section 7. Severability. Invalidation of any one of these covenants or restrictions by judgment or Court order shall in no wise affect any other provisions which shall remain in full force and effect.

Section 8. The covenants and restrictions of this Declaration shall run with and bind the land and shall insure to the benefit of and be enforceable by the Developer or the owner of any Lot subject to this Declaration, their respective legal representatives, heirs, successors and assigns, for a term of thirty (30) years from the date of this Declaration is recorded, after which time said covenants shall be automatically extended for successive periods of ten (10) years each. Any of the covenants and restrictions of this Declaration, except the easements herein granted, may be amended during the first thirty (30) year period by an instrument signed by members entitled to cast not less than ninety percent (90%) of the votes of the membership, and thereafter by an instrument signed by members entitled to cast not less than seventy-five percent (75%) of the total votes eligible to be cast. Provided, however, that any such amendment shall not be effective to amend said covenants and restrictions until such time as the City of Newberg approves such amendments.

Easements herein granted and reserved shall not be amended except by instrument signed and acknowledged by one hundred percent (100%) of the owners of the property concerned. All such amendments must be recorded in the appropriate deed records of Yamhill County, Oregon to be effective.

IN WITNESS WHEREOF, we have hereunto signed this document to have effect on the date indicated hereinabove by the authority vested.

AIRPARK BUSINESS COMPLEX, INC.

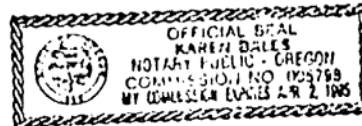
By *Sam Whitney*
Sam Whitney
President

DAVID F. ABBOTT, M.D., P.C.
RETIREMENT PLANS

By *David F. Abbott*
David F. Abbott
President

STATE OF OREGON)

COUNTY OF Yamhill)
:SS



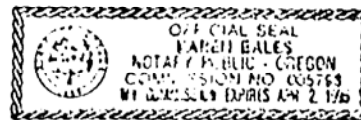
This instrument was acknowledged before me on January 30, 1992, by SAM WHITNEY, the President of AIRPARK BUSINESS COMPLEX, INC., an Oregon corporation, on behalf of said corporation, and asserts that he has the authority to execute this document on behalf of said corporation.

Karen Bales
Notary Public for Oregon

My Commission Expires: April 2, 1995

STATE OF OREGON)

COUNTY OF Yamhill)
:SS



This instrument was acknowledged before me on January 30, 1992, by David F. Abbott, the President of DAVID F. ABBOTT, M.D., P.C., RETIREMENT PLAN, an Oregon corporation, on behalf of said corporation and asserts that he has the authority to execute said document.

Karen Bales
Notary Public for Oregon

My Commission Expires: April 2, 1995

AFTER RECORDING, RETURN TO
Newberg City Attorney
414 E. First Street
Newberg, Oregon 97132

Page 3 of 3
DECLARATION OF COVENANTS, CONDITIONS
AND RESTRICTIONS
AIRPARK BUSINESS COMPLEX

176.6.4

1992 APR -9 PM 3:55

F267P0820

EXHIBIT A

Beginning at a point on the South line of and 25.00 chains West and the SE corner of the original DLC of Richard Everest and wife, Claims No. 52, Notification No. 1474 in Township 3 South Range 2 West of the WM in Yamhill County, Oregon; thence North 12.82 chains; thence East to the Southwesterly margin of the Hillsboro-Silverton State Highway; thence South 21°03'34" East along the Southwesterly margin of the said State Highway to its intersection with the South line of said Claim; thence West along the South line of said Claim to the place of beginning.

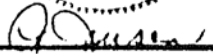
003731

STATE OF OREGON

COUNTY OF YAMHILL

I hereby certify that this instrument
was received and duly recorded
by me in Yamhill County records.

Instrument #


CHARLES STERN,
COUNTY CLERK



geoAdvantage

1991 MAY 13 AM 10:12

F254P1415



Northwest Title Company

STATUTORY WARRANTY DEED

DAVID F. ABBOTT, M.D., P.C., RETIREMENT PLANS

_____, Grantor,
conveys and warrants to AIRPARK BUSINESS COMPLEX, INC.
an Oregon Corporation, Grantee.
the following described real property free of liens and encumbrances, except as specifically set forth herein:

Beginning at a point on the South line of and 25.00 chains West of the Southeast corner of the Original Donation Land Claim of Richard Everest and wife Claim No. 52, Notification No. 1474 in Township 3 south, Range 2 West of the Willamette Meridian in Yamhill County, Oregon, thence North 12.82 chains; thence East to the Southwesterly margin of the Hillsboro-Silverton State Highway; thence South 21 deg. 03 min. 34 sec. East along the Southwesterly margin of the said state Highway to its intersection with the South line of said Claim; thence West along the South line of said Claim to the place of beginning.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES.

This property is free of liens and encumbrances, EXCEPT: Zoning for farm use; Rights of the Public to roads and highways; Access Restrictions, recorded in Book 187 Page 311.

The true consideration for this conveyance is \$ 400,000.00

DATED this 10th day of May 19 91.

DAVID F. ABBOTT, MD PC, RETIREMENT PLANS BY: _____

Administrative

STATE OF OREGON, County of _____)ss.

CORPORATE ACKNOWLEDGMENT
STATE OF OREGON, County of Yamhill)ss.

The foregoing instrument was acknowledged before me this _____ day of _____ 19 _____ by _____

The foregoing instrument was acknowledged before me this 10th day of May 19 91 by David F. Abbott, Administrator of David F. Abbott, MD PC Retirement Plan a corporation, on behalf of the corporation.

Notary Public for Oregon
My commission expires:

SEAL

Title Order No. 55081
Escrow No. 14654

After recording return to:

NAME, ADDRESS, ZIP

Until a change is requested all tax statements shall be sent to the following address.

Airpark Business Complex, Inc.
P.O. box 248
Newberg, Oregon 97132

NAME, ADDRESS, ZIP

THIS SPACE RESERVED FOR RECORDER'S USE

STATE OF OREGON)
COUNTY OF YAMHILL) ss.

I hereby certify that this instrument was received and duly recorded by me in Yamhill County records.

Instrument #

Charles Stern
CHARLES STERN,
COUNTY CLERK

004010

5-13-91



Exhibit D: Preliminary Stormwater Report

1000 Commerce Parkway Newberg, Oregon

Preliminary Stormwater Report

Date: September 2018

Client: Airpark Business Complex, Inc.
504 NE Airpark Way
Newberg, OR 97132

Engineering Contact: Jason Wuertz, PE
wuertzj@aks-eng.com | 503-563-6151

Engineering Firm: AKS Engineering & Forestry, LLC
12965 SW Herman Road, Suite 100
Tualatin, OR 97062

AKS Job Number: 6523



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Appendices

APPENDIX A: PRE-DEVELOPED BASIN MAP
APPENDIX B: POST-DEVELOPED BASIN MAP
APPENDIX C: PRELIMINARY CONSTRUCTION PLANS
APPENDIX D: STORMWATER MODEL STORM EVENT ANALYSIS
APPENDIX E: USDA-NRCS SOIL RESOURCE REPORT
APPENDIX F: TR55 RUNOFF CURVE NUMBERS
APPENDIX G: OPERATIONS AND MAINTENANCE

Preliminary Stormwater Report

1000 COMMERCE PARKWAY NEWBERG, OREGON

1.0 Purpose of Report

The purpose of this report is to analyze the effects of the proposed developments on the existing stormwater system and to document the criteria, methodology, and informational sources by which the proposed stormwater system is designed.

2.0 Project Location/Description

The business complex and associated parking will be located at 1000 NE Commerce Parkway within the City of Newberg. The proposed development will reside on Tax Lot 700 which is 4.37 acres (Yamhill County's Tax Map 3S 2W 20DD).

The proposed project includes the construction of a new building and associated parking improvements, landscaping, underground utilities, and stormwater management facilities. Approximately 13,315 square feet of net new impervious area will be created on the site.

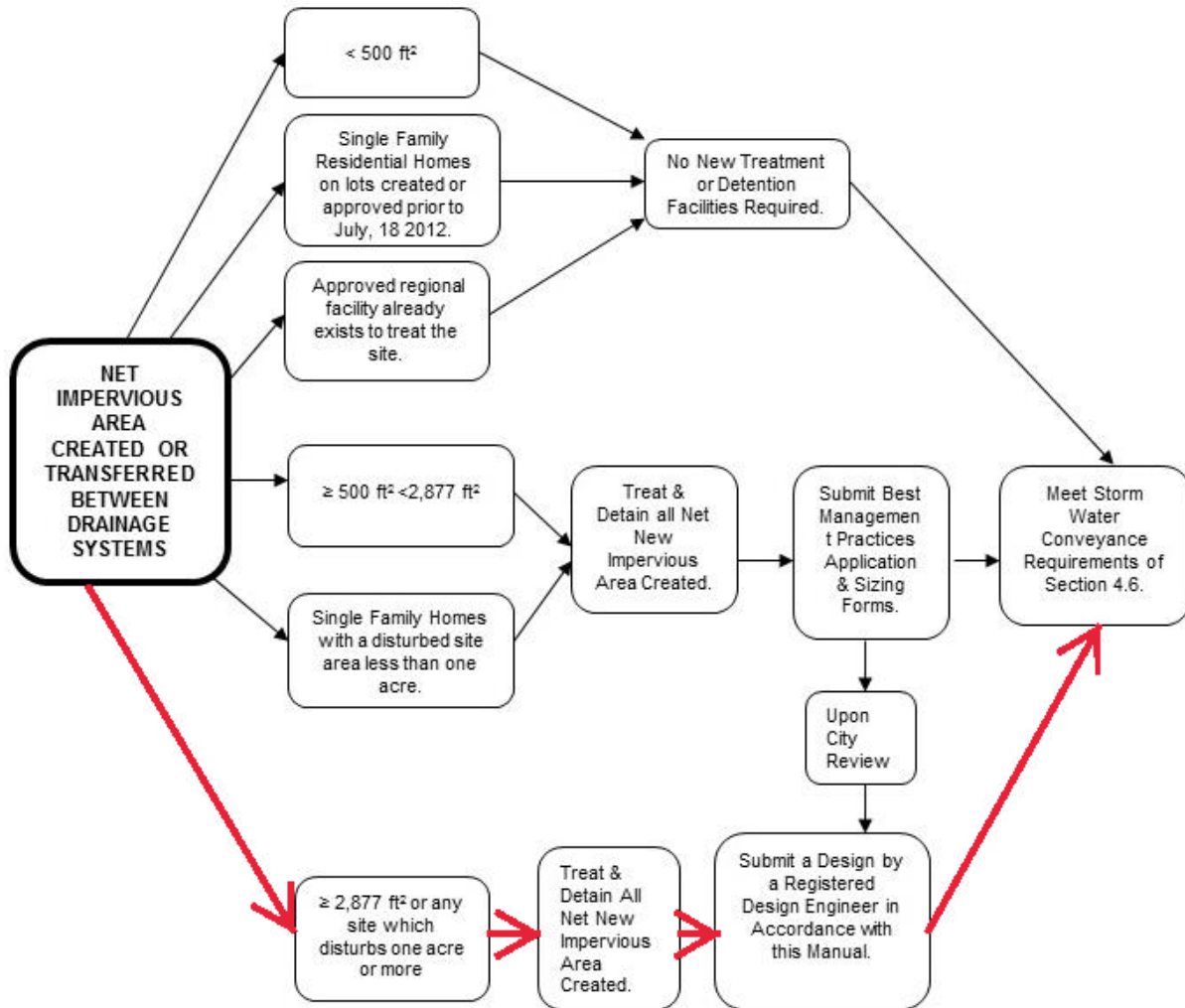
Stormwater management is provided primarily through a combination of a water quality swale and an above ground detention facility. Trees, shrubs, and lawn will be planted per City standards. All stormwater facilities are modeled assuming no infiltration. After stormwater passes through the water quality swale, it will be conveyed to a detention pond which is designed to release the post-developed peak flows at or below pre-developed rates. Stormwater will be conveyed from the detention pond to an outfall per existing drainage conditions.

3.0 Regulatory Design Criteria

Stormwater design criteria is dictated by the City of Newberg Public Works Design and Construction Standards (August 2015). Per figure 4.4, the proposed development will create more than 2,877 square feet of net new impervious area and therefore stormwater treatment and detention is required. The proposed design meets the requirements of section 4.6 and is designed by a registered Civil Engineer.

4.6 Water Quantity and Quality Facilities

Figure 4.4 Storm water Quality & Quantity Design Flow Chart



3.1 STORMWATER QUANTITY

Section 4.7.1.III of the City of Newberg *Public Works Design and Construction Standards (August 2015)* requires that the post-development runoff rates from the site do not exceed the predevelopment runoff rates. Water quantity design methodology is outlined in section 5.3 of this report.

4.7.1.III Water Quantity Facility Design & Control Standards

Stormwater quantity on-site detention facilities shall be designed to capture runoff so the post-development runoff rates from the site do not exceed the predevelopment runoff rates from the site, based on 24-hour storm events ranging from the ½ of the 2-year return storm to the 25-year return storm. Specifically, the ½ of the 2, 2, 10, and 25-year post-development runoff rates will not exceed their respective ½ of the 2, 2, 10, and 25-year pre-development runoff rates...

3.2 STORMWATER QUALITY

The proposed development is required to construct permanent water quality facilities per Chapter 13.25, Article IV, of the Municipal Code to reduce contaminants entering the stormwater system. The storm event used to design the water quality facility is based on the water quality storm as identified in section 4.8.5 of the design and construction standards. Water quality design methodology is outlined in section 5.2 of this report.

4.8.5 Water Quality Storm

The storm defines both the volume and rate of runoff. The stormwater quality only facilities shall be designed for a dry weather storm event totaling 1.0 inches of precipitation falling in 24 hours...

4.0 Design Parameters

4.1 DESIGN STORMS

Per City of Newberg requirements, the stormwater analysis utilizes the 24-hour storm for the evaluation and design of the existing and proposed stormwater facilities. The following 24-hour rainfall depths were utilized as the design storm for each recurrence interval.

Table 4-1: 24 Hour Rainfall Depths	
Recurrence Interval (Years)	Total Precipitation Depth (Inches)
½ of 2	1.25
2	2.50
10	3.50
25	4.00

The stormwater pipes are sized using Manning's equation based on peak flows for the 25-year storm.

4.2 PRE-DEVELOPED SITE CONDITIONS

4.2.1 Site Topography

Topography on the site is generally sloping toward the southeast corner of the property. Topography of the undeveloped northern portion of the site is gently sloping to the south at an approximate 2-7 percent grade. Topography of the southern portion of the site is developed and gently sloping to the southeast at an approximate 2-7 percent. Topography of the undeveloped eastern portion of the site is generally sloping to the south and to the east at an approximate 20-55 percent grade. Eventually stormwater for the whole site drains into and unnamed drainage to the southeast end of the site.

4.2.2 Land Use

The existing site is currently developed and used as a private business. The zoning for the property is M-2 (Light Industrial).

4.3 SOIL TYPE

Per Section 4.5.4, *Santa Barbara Urban Hydrograph (SBUH)*, of the City of Newberg *Public Works Design and Construction Standards* (August 2015):

II. Curve numbers shall be derived from the National Resources Conservation Service's (NRCS) runoff curve numbers contained in Technical Release 55 (TR-55)-Urban Hydrology for Small Watersheds.

III. Soil types shall be derived from the NRCS Soil Survey for Yamhill County.

The soils for the site are classified as Aloha Silt Loam (0 to 3% slopes, Hydrologic group C/D) and Woodburn silt loam (20 to 55% slopes, Hydrologic group C) per the NRCS Soil Survey for Yamhill County. Information for these soils is contained within the appendices of this report. The current existing cover types of the modeled area is classified with having: 20,884 SF of fair condition open space with 50% to 75% grass cover.

4.4 POST-DEVELOPED SITE CONDITIONS

4.4.1 Site Topography

The onsite slopes will be modified with cuts and fills to accommodate the construction of the industrial building, parking facilities and stormwater facilities, but finished grades will generally follow the existing grades.

4.4.2 Land Use

The site land-use will consist of an industrial building, landscaping, associated parking facilities and associated stormwater facilities.

4.4.3 Post-Developed Input Parameters

See HydroCAD Analysis for water quantity and quality design in the attached appendices.

5.0 Design Methodology

The Santa Barbara Urban Hydrograph (SBUH) Method was used to analyze stormwater runoff from the site. This method utilizes the SCS Type 1A 24-hour design storm. HydroCAD 8.5 computer software aided in the analysis. Representative CN numbers were obtained from the *Technical Release 55* and are included in the appendices.

The Santa Barbara Urban Hydrograph (SBUH) Method was used to analyze stormwater runoff from the site. This method utilizes the SCS Type 1A 24-hour design storm. HydroCAD 10 computer software aided in the analysis. The HydroCAD model incorporates the water quality swale and detention facility into the overall stormwater system for the site.

5.1 FACILITY SELECTION

Based on the *City of Newberg Public Works Design and Construction Standards* section 4.6.8, Facility Selection Hierarchy (table 6.2 below), a water quality swale has been selected as the primary water quality facility and a surface pond has been selected as the primary water quantity facility, which are both considered regional facilities.

Table 5.1 Facility Selection Hierarchy Table	
Detention Facilities	Water Quality Facilities
LIDA Facilities/Regional Facility	LIDA Facilities/Regional Facility
Surface Pond	Swale
Underground Tank/Pipes	Proprietary Treatment Systems
Fee in lieu of construction payment	Fee in lieu of construction payment

5.2 PROPOSED STORMWATER QUALITY CONTROL FACILITY DESIGN

The water quality swale is designed with HydroCAD by running the water quality storm event through the swale. The design standards require a minimum of 9 minutes of hydraulic residence time and a maximum velocity of 2.0 fps.

The modeled water quality storm even will have a minimum 9.4-minute hydraulic residence time with an average depth of 0.17-feet and a maximum velocity of 0.12-fps.

5.3 PROPOSED STORMWATER QUANTITY CONTROL FACILITY DESIGN

The stormwater quantity control facility has been design based on the *City of Newberg Public Works Design and Construction Standards* section 4.7. The detention system utilizes an above ground detention pond and a flow control system. The overall system has been designed to release the post-development runoff at or below pre-development runoff rates.

Based on previous projects in the Newberg area, infiltration is expected to be low. Infiltration was not considered in the modeling of the stormwater system; however, the pond will be unlined to encourage infiltration as much as possible.

The hydraulic analysis of the detention system was modeled utilizing HydroCAD 10 software. A summary of the pre and post-development flow rates are shown below. Complete stormwater quantity calculations are shown in the appendices.

Table 5-3: WATER QUANTITY SUMMARY			
Recurrence Interval Years	Peak Pre-Development Flows (Basins 1E) (cfs)	Peak Post-Development Flows (After LIDA and Detention) (cfs)	Peak Flow Decrease (cfs)
1/2 of 2	0.01	0.01	0.00
2	0.06	0.06	0.00
10	0.14	0.13	0.01
25	0.19	0.16	0.03

As shown on the table above, the detained post-development flows are equal to or less than the pre-development peak flows produced by the overall site (basin 1E shown on the attached pre-development basin delineation map).

6.0 Downstream Analysis

A downstream analysis incorporating the subject site has been performed per City of Newberg standards. A visual inspection was performed of the downstream system on April 13, 2018, from the existing site swale to the existing outfall at the adjacent drainage. The visual investigation did not identify any observable downstream impacts to existing storm structures. No visible erosion was present at the existing stormwater outfall or within the drainage channel.

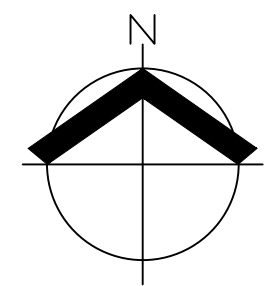
7.0 Conclusion

The stormwater system for the proposed development has been designed to meet the City of Newberg Municipal Code section 13.25 and complies with the requirements in the City of Newberg Public Works Design and Construction Standards Manual.

TAX LOT 600
TAX MAP 3 2 20DD

TAX LOT 500
TAX MAP 3 2 20DD

TAX LOT 400
TAX MAP 3 2 20DD



SCALE: 1" = 40 FEET



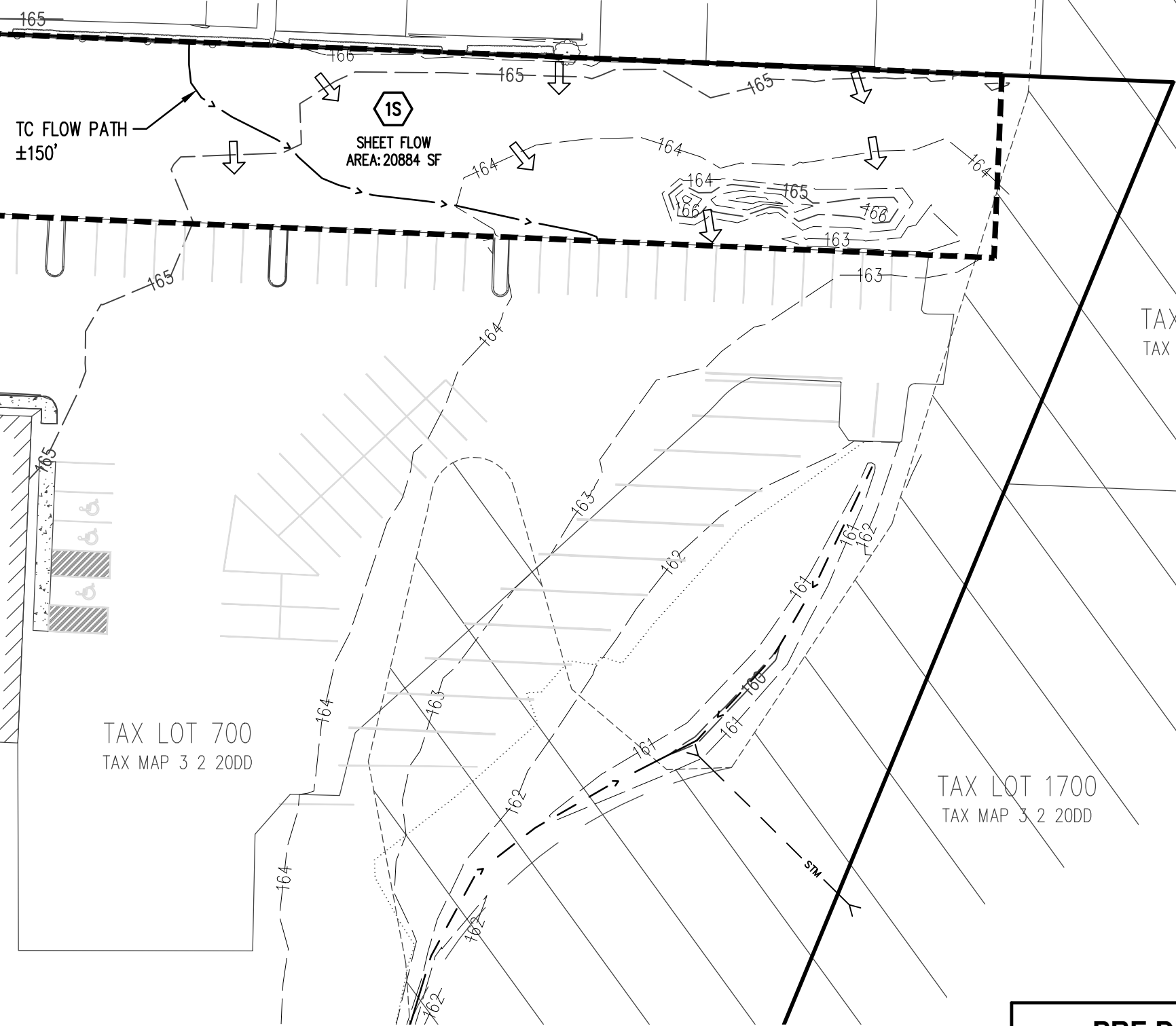
TAX LOT 300
TAX MAP 3 2 20DD

TAX LOT 91000
TAX MAP 3 2 20DD 2

TAX LOT 700
TAX MAP 3 2 20DD

TAX LOT 1900
TAX MAP 3 2 20DD

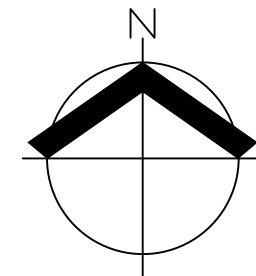
TAX LOT 1700
TAX MAP 3 2 20DD



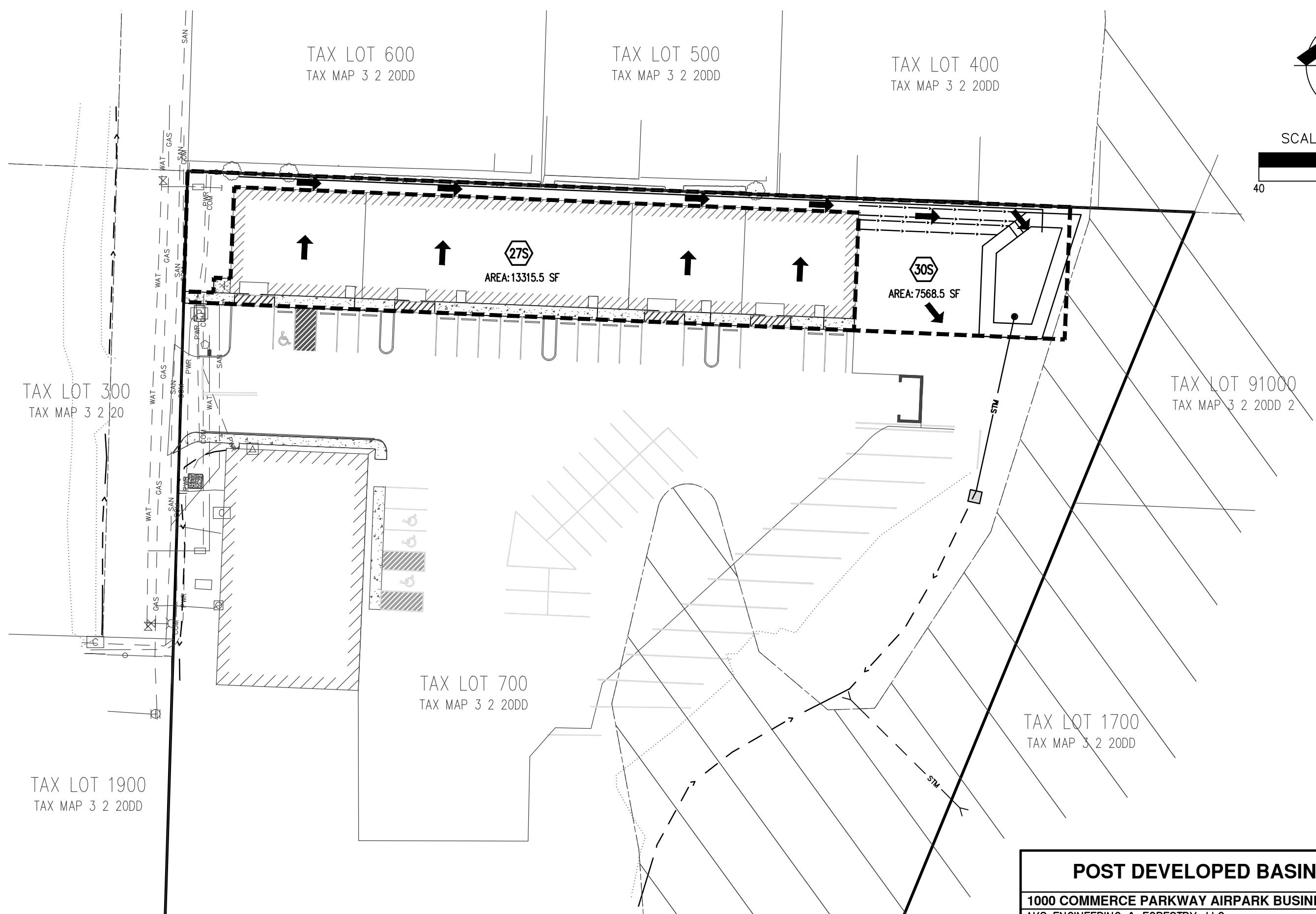
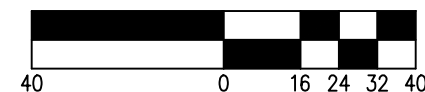
DATE: 09/27/18

PRE DEVELOPED BASIN MAP		EXHIBIT
1000 COMMERCE PARKWAY AIRPARK BUSINESS COMPLEX		A
AKS ENGINEERING & FORESTRY, LLC 3052 NW MERCHANT WY, STE 100 BEND, OR 97703 P: 541.382.0385		DRWN: GMB CHKD: JAW AKS JOB: 6523
aks-eng.com		





SCALE: 1" = 40 FEET



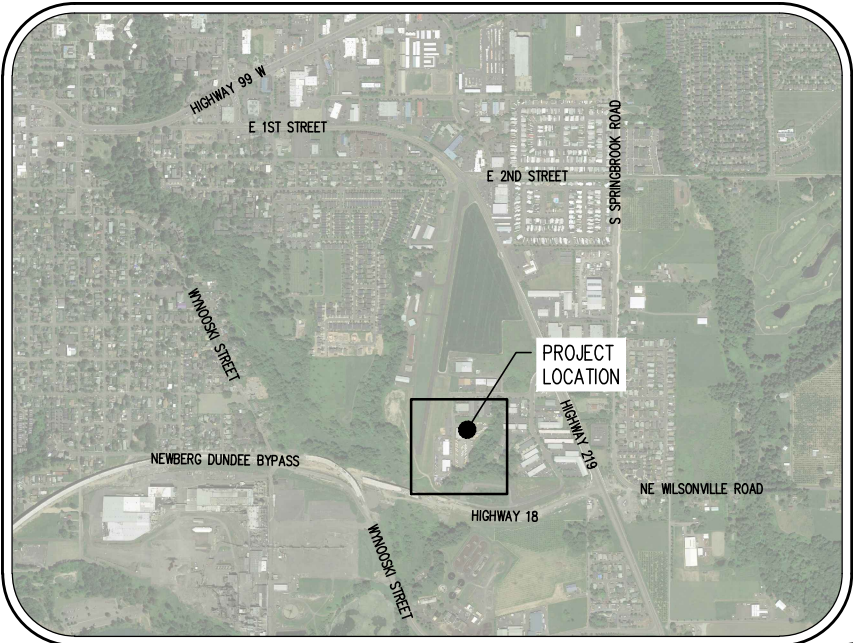
DATE: 09/27/18

POST DEVELOPED BASIN MAP		EXHIBIT
1000 COMMERCE PARKWAY AIRPARK BUSINESS COMPLEX		B
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 P: 503.563.6151 F: 503.563.6152 aks-eng.com		DRWN: GMB CHKD: JAW AKS JOB: 6523

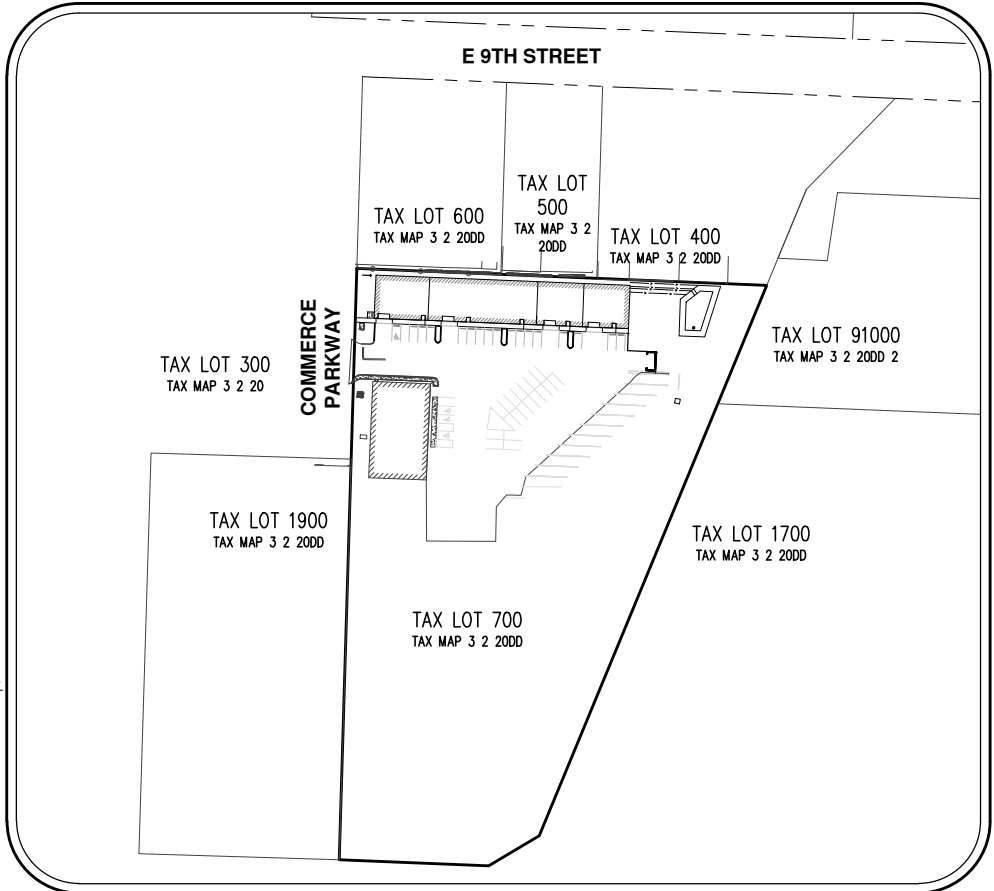


1000 COMMERCE PARKWAY

CIVIL ENGINEERING DESIGN REVIEW PLANS



VICINITY MAP
NOT TO SCALE



SITE MAP
SCALE 1" = 100'

PROPERTY DESCRIPTION:

YAMHILL COUNTY TAX MAP 3S 2W 20DD, TAX LOT 00700.
1000 COMMERCE PARKWAY, NEWBERG, OREGON

PROJECT PURPOSE:

NEW 12,320 SQUARE FOOT BUILDING AND ASSOCIATED PARKING IMPROVEMENTS

VERTICAL DATUM

VERTICAL DATUM: NAVD88 ELEVATIONS ARE BASED ON TRIMBLE NOW VRS.

EXISTING LAND USE:

M-2 LIGHT INDUSTRIAL

ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BUT NOT MORE THAN TEN BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.



CIVIL ENGINEERING/PLANNING/ LANDSCAPE ARCHITECTURE AND SURVEYING FIRM:

AKS ENGINEERING & FORESTRY
CONTACT: JASON WUERTZ, PE
12965 SW HERMAN ROAD
SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151
FAX: 503-563-6152

DEVELOPER/OWNER

AIRPARK BUSINESS COMPLEX, INC.
CONTACT: JASON DALE
504 NE AIRPARK WAY
NEWBERG, OR 97132
PH: 503-550-0852

UTILITY CONTACTS

POWER

PORTLAND GENERAL ELECTRIC
3700 SE 17TH AVENUE
PORTLAND, OR 97202
PH: 503-464-7777

GAS

NW NATURAL
220 NW 2ND AVENUE
PORTLAND, OR 97209
PH: 800-882-3377

COMMUNICATIONS

COMCAST CABLE
10831 SW CASCADE AVENUE
TIGARD, OR 97223
PH: 503-617-1212

COMMUNICATIONS

VERIZON (FRONTIER)
4155 SW CEDAR HILLS BLVD
BEAVERTON, OR 97005
PH: 877-462-8188

SHEET INDEX

- C1 - COVER SHEET WITH VICINITY MAP, SITE MAP AND LEGEND
- C2 - EXISTING CONDITIONS PLAN
- C3 - PRELIMINARY DEMOLITION PLAN AND EROSION & SEDIMENT CONTROL PLAN
- C4 - PRELIMINARY GRADING PLAN
- C5 - PRELIMINARY SITE PLAN
- C6 - PRELIMINARY UTILITY PLAN
- C7 - PRELIMINARY DETAILS
- L1 - PRELIMINARY LANDSCAPE PLAN

**COVER SHEET WITH
VICINITY MAP, SITE MAP
AND LEGEND**

**1000 COMMERCE PARKWAY
AIRPARK BUSINESS COMPLEX
NEWBERG**

**OR
TAXLOT 00700**

TAXMAP 3220DD

**ENGINEERING • SURVEYING • NATURAL RESOURCES
FORESTRY • PLANNING • LANDSCAPE ARCHITECTURE**

AKS

**AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD, STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com**

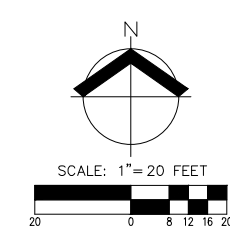
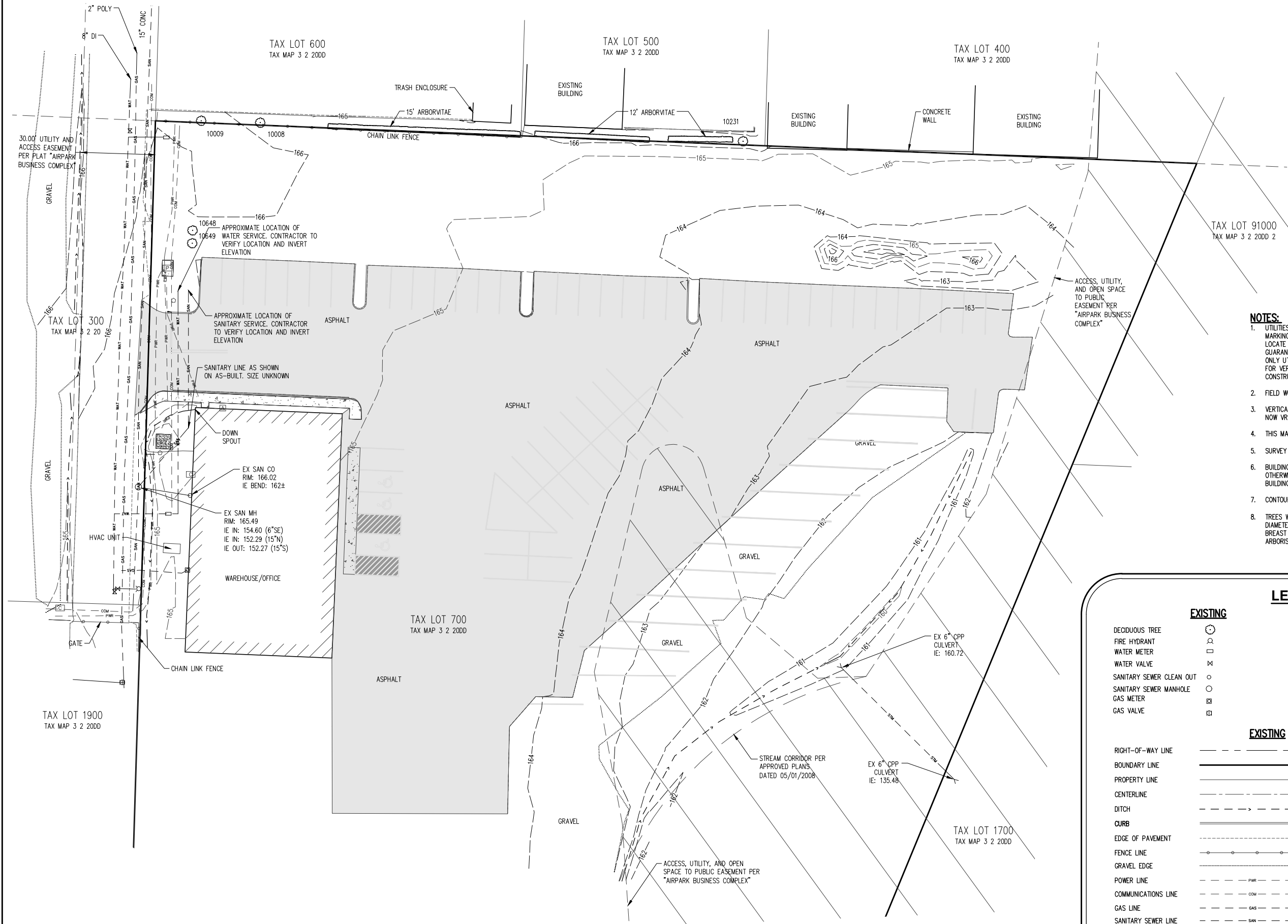
**DESIGNED BY: JAW
DRAWN BY: CRM
CHECKED BY: CEG
SCALE: AS NOTED
DATE: 09/27/2018**

**REGISTERED PROFESSIONAL ENGINEER
JASON WUERTZ
No. 12345
RENEWAL DATE: 06/30/2020**

REVISIONS

**JOB NUMBER
6523**

**SHEET
C1**



TREE TABLE		
TREE NUMBER	TYPE	DBH (IN.)
10008	DECIDUOUS	13
10009	DECIDUOUS	14
10231	DECIDUOUS	6
10648	DECIDUOUS	6
10649	DECIDUOUS	6

- NOTES:**
- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 18009945. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
 - FIELD WORK WAS CONDUCTED JANUARY 15-16, 2018.
 - VERTICAL DATUM: NAVD88 ELEVATIONS ARE BASED ON TRIMBLE NOW VRS.
 - THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
 - SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
 - BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
 - CONTOUR INTERVAL IS 1 FOOT.
 - TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.

LEGEND

EXISTING

DECIDUOUS TREE

FIRE HYDRANT

WATER METER

WATER VALVE

SANITARY SEWER CLEAN OUT

SANITARY SEWER MANHOLE

GAS METER

GAS VALVE

RIGHT-OF-WAY LINE

BOUNDARY LINE

PROPERTY LINE

CENTERLINE

DITCH

CURB

EDGE OF PAVEMENT

FENCE LINE

GRAVEL EDGE

POWER LINE

COMMUNICATIONS LINE

GAS LINE

SANITARY SEWER LINE

WATER LINE

EXISTING

POWER VAULT

POWER JUNCTION BOX

POWER PEDESTAL

COMMUNICATIONS VAULT

COMMUNICATIONS JUNCTION BOX

COMMUNICATIONS RISER

1000 COMMERCE PARKWAY
AIRPARK BUSINESS COMPLEX
NEWBERG
TAXMAP 32200

OR
TAXLOT 00700

EXISTING CONDITIONS
PLAN

DESIGNED BY:
DRAWN BY: TD
CHECKED BY: NW
SCALE: AS NOTED
DATE: 09/27/2018

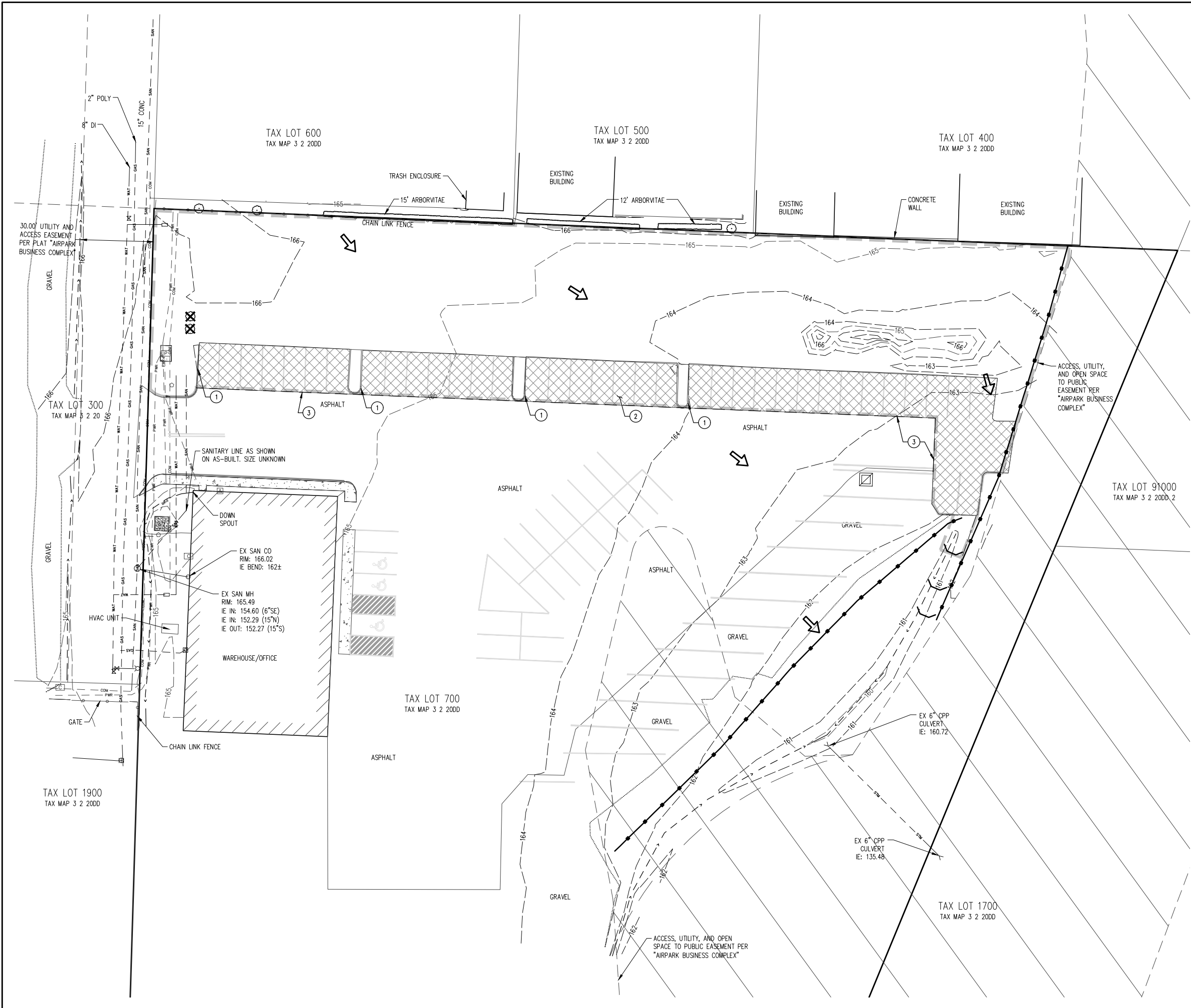
PRELIMINARY
NOT FOR
CONSTRUCTION

REVISIONS

JOB NUMBER
6523

SHEET
C2

AKS DRAWING FILE: 6523_C3.DWG | LAYOUT: C3



LEGEND

EROSION CONTROL FENCE PER DETAIL 602

INLET PROTECTION

EXISTING AC TO BE REMOVED

SAWCUT LINE

DISTURBANCE AREA

EXISTING TREE TO BE REMOVED

EXISTING TREE TO REMAIN

CONCRETE WASHOUT PER DETAIL 607

DRAINAGE FLOW DIRECTION

CHECK DAM BIO-FILTER BAG PER CWS DETAIL 845

PRE-CONSTRUCTION, CLEARING, AND DEMOLITION NOTES:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

2. SEDIMENT BARRIERS APPROVED FOR USE INCLUDE SEDIMENT FENCE, BERMS CONSTRUCTED OUT OF MULCH, CHIPPINGS, OR OTHER SUITABLE MATERIAL, STRAW WATTLES, OR OTHER APPROVED MATERIALS.

3. SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE IN THE AREA. NO ACTIVITIES ARE PERMITTED TO OCCUR BEYOND THE CONSTRUCTION BARRIER.

4. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, STREET SWEEPING, AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

5. RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, AND BANK STABILIZATION.

DEMO KEY NOTES:

1. REMOVE EXISTING CONCRETE CURB

2. REMOVE EXISTING AC AND BASE ROCK

3. SAWCUT

SCALE: 1"=20 FEET

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NEWBERG
TAXMAP 32200

OR
TAXLOT 00700

**PRELIMINARY DEMOLITION
PLAN AND EROSION &
SEDIMENT CONTROL PLAN**

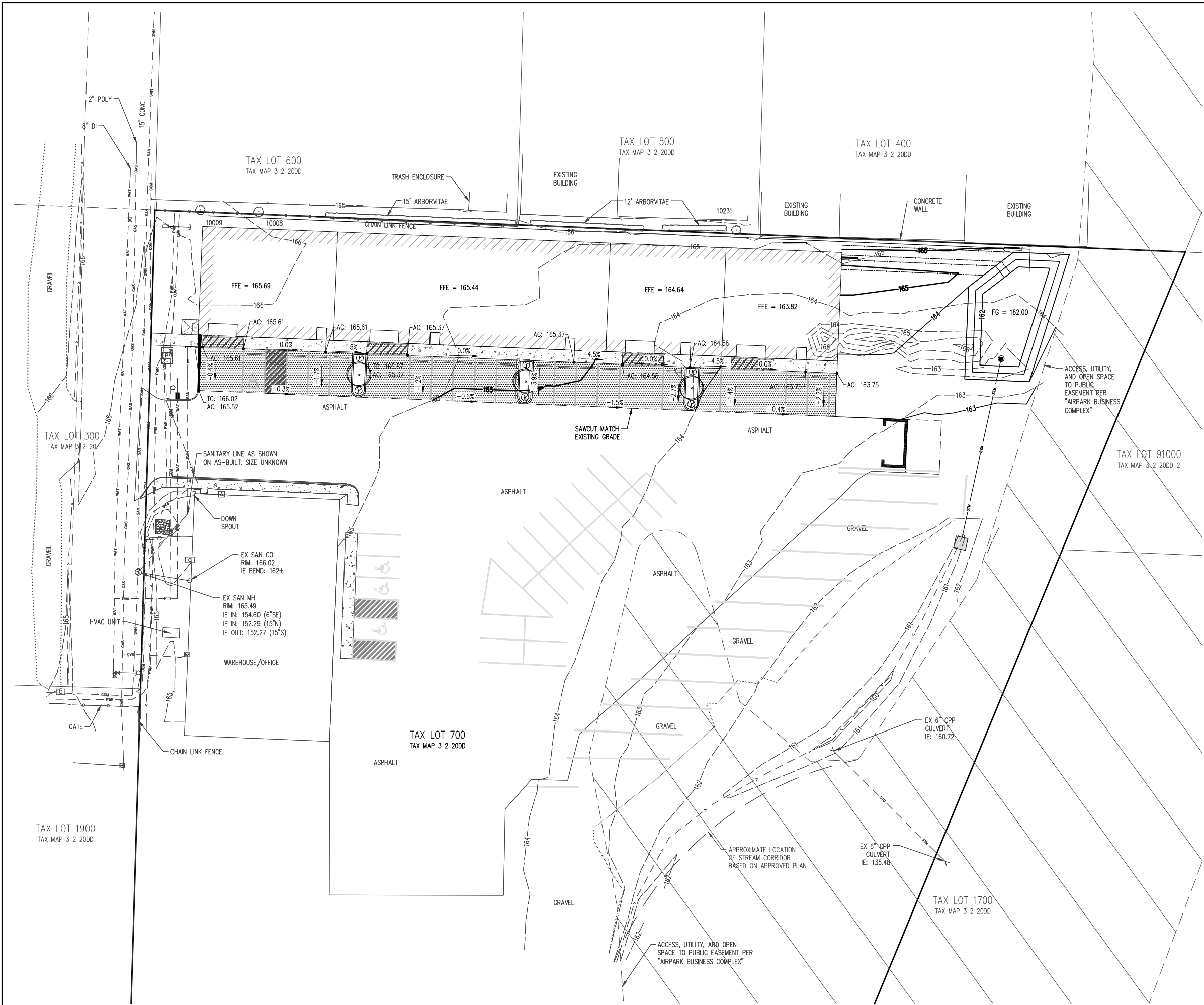
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DRAWN BY: CRM
CHECKED BY: CEG
SCALE: AS NOTED
DATE: 09/27/2018

RENEWAL DATE: 06/30/2020
REVISIONS:

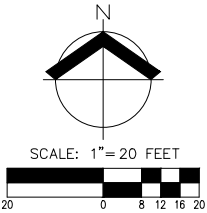
JOB NUMBER
6523

SHEET
C3

AKS DRAWING FILE: 6523 CALDWING | LAYOUT: 04



LEGEND	
ASPHALT CONCRETE	AC:100.00
TOP OF CURB	TC:100.00
FINISHED FLOOR ELEVATION	FFE:100.00
FINISHED GRADE	FG:100.00
EXISTING GRADE	(EG:100.00)
EXISTING GROUND CONTOUR (1FT)	---164---
EXISTING GROUND CONTOUR (5FT)	---165---
FINISHED GRADE CONTOUR (1FT)	---164---
FINISHED GRADE CONTOUR (5FT)	---165---
SAWCUT LINE	---



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PRELIMINARY GRADING
PLAN

DESIGNED BY: JAW
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CHECKED BY: CEG
SCALE: AS NOTED
DATE: 09/27/2018


REGISTERED PROFESSIONAL
ENGINEER
NO. 10000
A. WURTEL

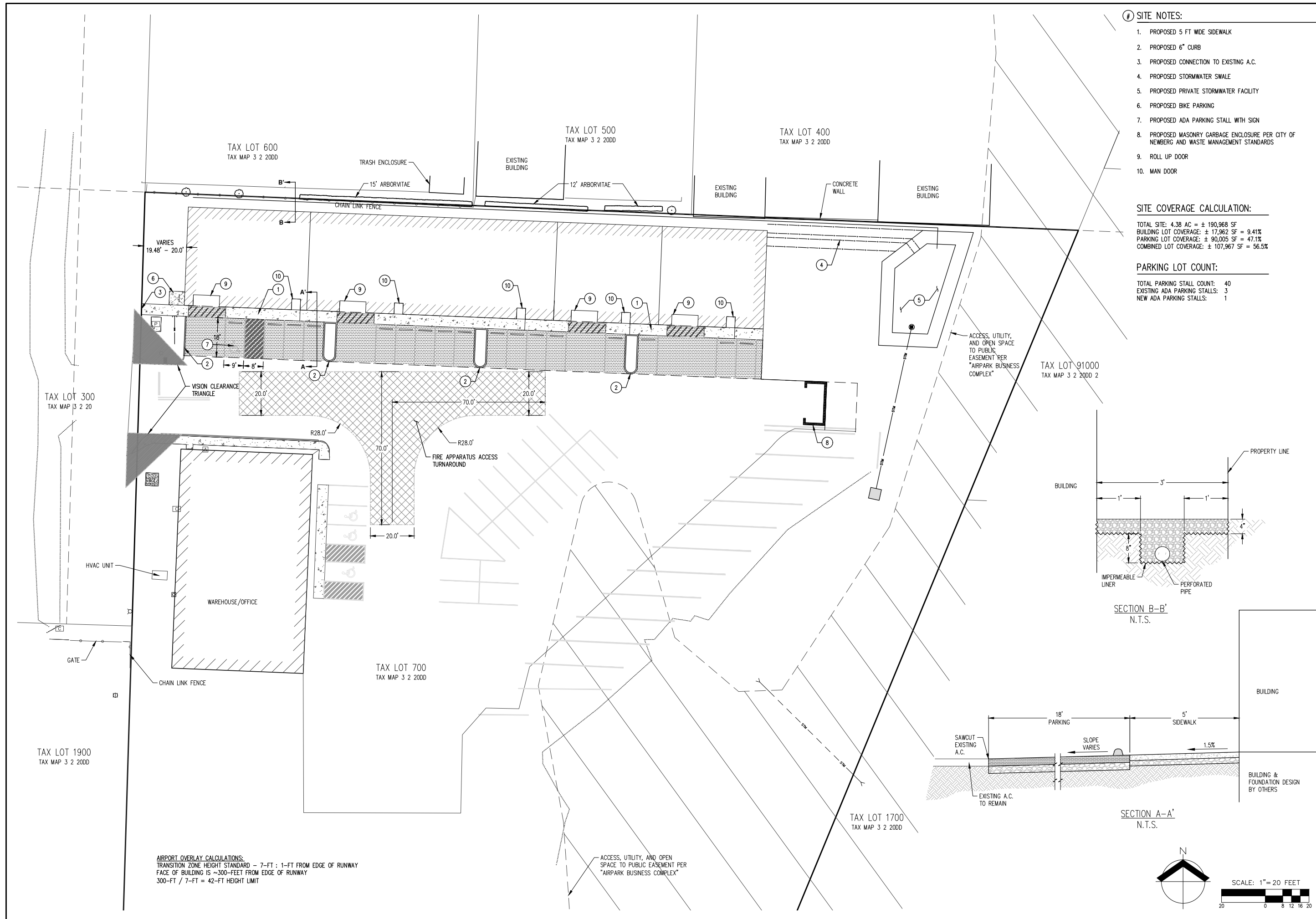
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REVISIONS

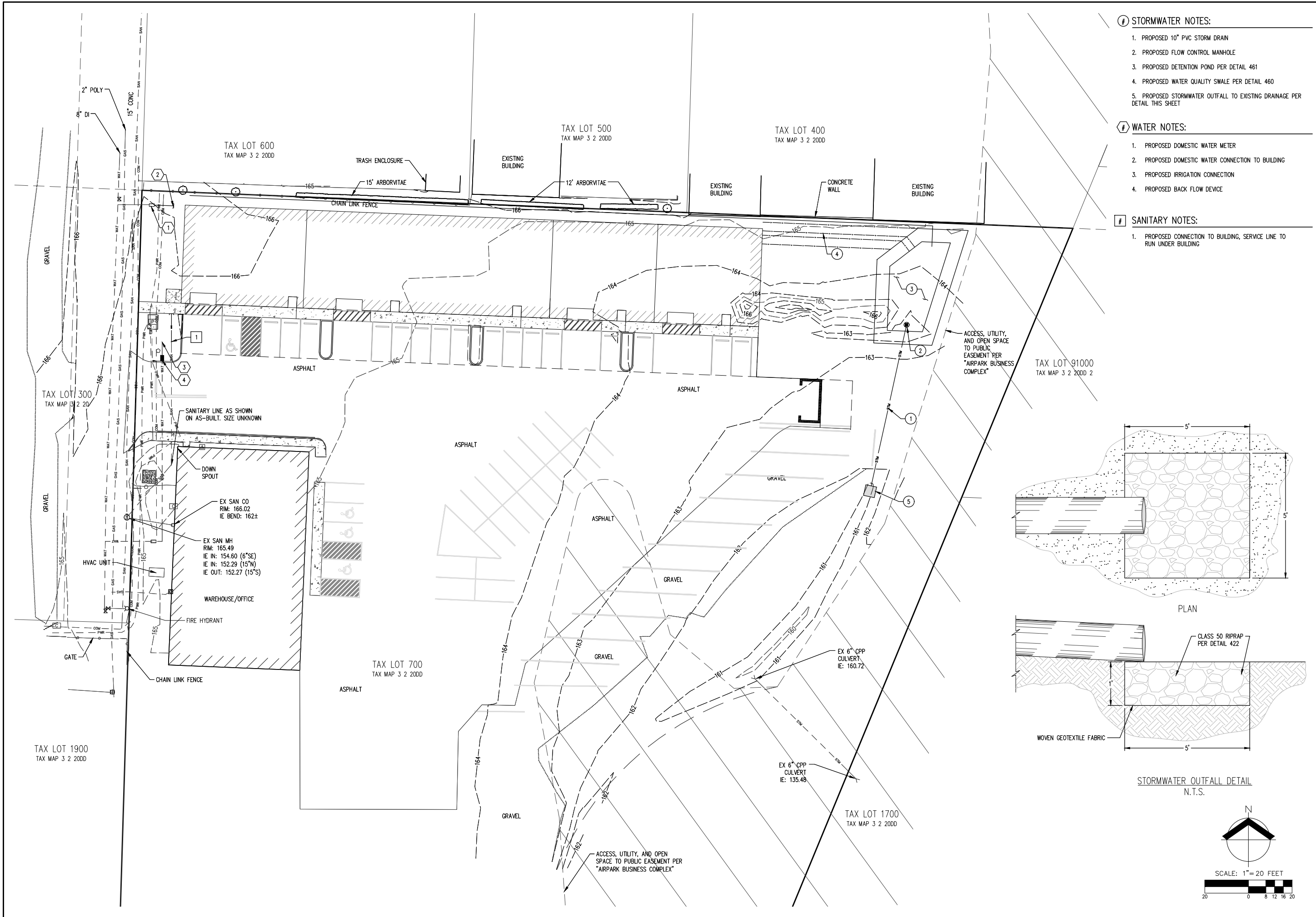
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6523

SHEET
C4

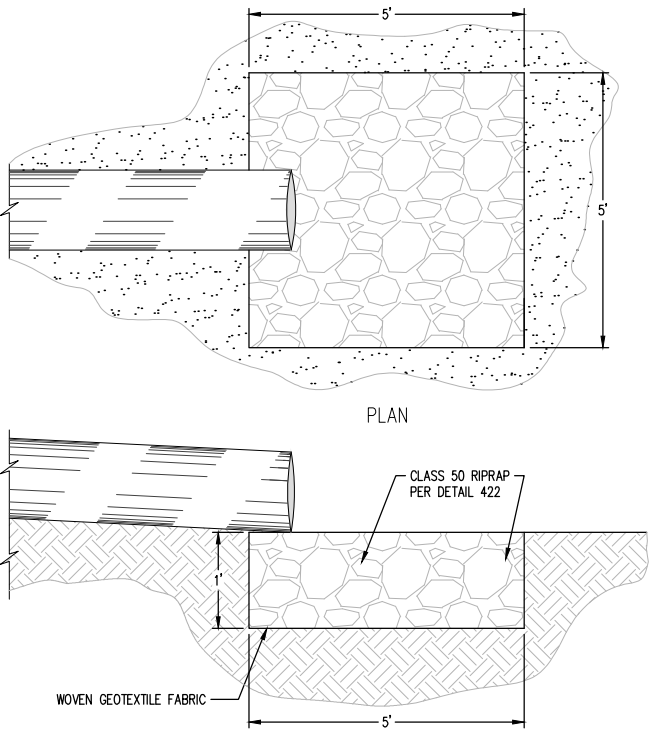
PRELIMINARY SITE PLAN

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SCALE:	AS NOTED
DATE: 09/27/2018	
	
RENEWAL DATE: 06/30/2020	
REVISIONS	
JOB NUMBER	
6523	
SHEET	
C5	

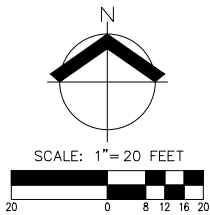




- STORMWATER NOTES:**
1. PROPOSED 10" PVC STORM DRAIN
 2. PROPOSED FLOW CONTROL MANHOLE
 3. PROPOSED DETENTION POND PER DETAIL 461
 4. PROPOSED WATER QUALITY SWALE PER DETAIL 460
 5. PROPOSED STORMWATER OUTFALL TO EXISTING DRAINAGE PER DETAIL THIS SHEET
- WATER NOTES:**
1. PROPOSED DOMESTIC WATER METER
 2. PROPOSED DOMESTIC WATER CONNECTION TO BUILDING
 3. PROPOSED IRRIGATION CONNECTION
 4. PROPOSED BACK FLOW DEVICE
- SANITARY NOTES:**
1. PROPOSED CONNECTION TO BUILDING, SERVICE LINE TO RUN UNDER BUILDING



STORMWATER OUTFALL DETAIL
N.T.S.



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PRELIMINARY UTILITY
PLAN

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REVISIONS	

JOB NUMBER
6523
SHEET
C6

RIPRAP:

- ROCK FOR RIPRAP SHALL BE ANGULAR IN SHAPE.
- THICKNESS OF A SINGLE ROCK SHALL NOT BE LESS THAN ONE-THIRD ITS LENGTH.

RIPRAP INSTALLATION:

- EXCAVATE BELOW FINISH GRADE TO DEPTH & DIMENSIONS SHOWN ON APPROVED PLANS.
- INSTALL WOVEN GEOTEXTILE FABRIC.
- PLACE RIP RAP TO FINISH GRADE.

- GRADE RIPRAP SHALL BE THE CLASS AND SIZE OF ROCK ACCORDING TO THE FOLLOWING:

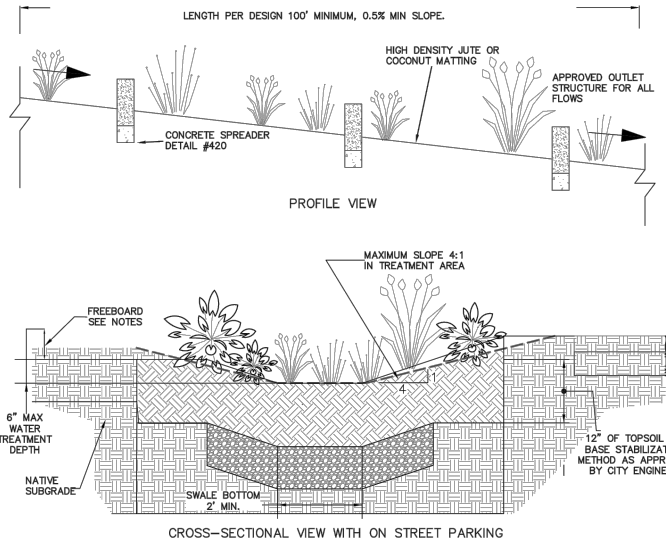
CLASS	CLASS	CLASS	CLASS	CLASS	
50	100	200	700	2000	
WEIGHT OF ROCK (LBS)					PERCENT (BY WEIGHT)
50-30	100-60	200-140	700-500	2000-1400	20
30-15	60-25	140-80	500-200	1400-700	30
15-2	25-2	80-8	200-20	700-40	40
2-0	2-0	8-0	20-0	40-0	10



REVISIONS:

RIPRAP

SCALE: N.T.S.
DATE: MARCH 2014
APPROVED BY: JAY H.
STANDARD DRAWING 422



HYDRAULIC DESIGN CRITERIA:

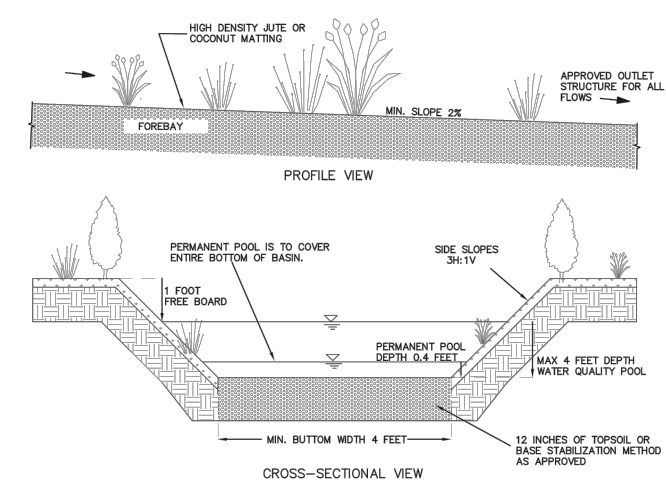
1. DESIGN FLOW: WATER QUALITY FLOW
2. MIN. HYDRAULIC RESIDENCE TIME: 9 MINUTES
3. MAXIMUM WATER DESIGN DEPTH: 0.5 FEET
4. MINIMUM FREE BOARD: 1.0 FOOT (FOR FACILITIES NOT NOT PROTECTED FROM HIGH FLOWS)
5. MANNING "n" VALUE: 0.24
6. MAXIMUM VELOCITY: 2.0 fps BASED ON 25-YEAR FLOW



REVISIONS:

VEGETATED SWALE

SCALE: N.T.S.
DATE: MARCH 2014
APPROVED BY: JAY H.
STANDARD DRAWING 460



HYDRAULIC DESIGN CRITERIA:

1. MIN. WATER QUALITY DETENTION VOLUME: 1.0 X WATER QUALITY VOLUME (WQV)
2. 48 HOURS WATER QUALITY DRAWDOWN TIME
3. FOR ORIFICE SIZE USE: $D = 24 \sqrt{Q / (C_d 2gH^{3/2})} \times 0.5$ WHERE: $D(n) =$ DIAMETER OF ORIFICE $Q(cfs) =$ WQV(cfs) / (48*60*60) $C_d = 0.62$ $H(n) =$ (TEMPORARY WATER QUALITY DETENTION HEIGHT TO CENTERLINE OF ORIFICE)

FACILITY DESIGN CRITERIA:

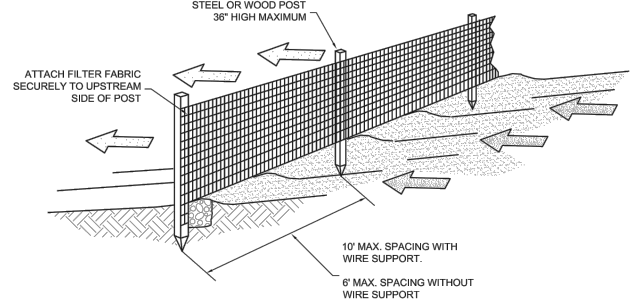
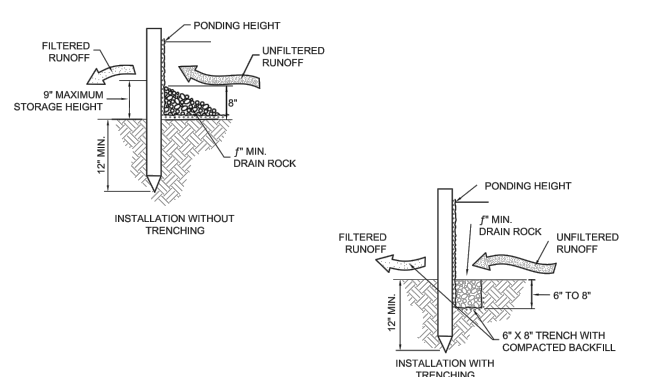
1. UP UNTIL THE MAX WATER SURFACE, INTERIOR SIDE SLOPES, MAX SLOPE IS 3H:1V
2. ABOVE MAX WATER SURFACE, INTERIOR SIDE SLOPES, MAX SLOPE IS 2H:1V
3. IF INTERIOR SIDE SLOPES MUST BE MOWED SIDE SLOPE THEN THE MAX SLOPE IS 4H:1V
4. EXTERIOR SIDE SLOPES MAX 2H:1V, UNLESS ANALYZED FOR STABILITY BY A GEOTECHNICAL ENGINEER
5. MINIMUM FREEBOARD 1 FOOT FROM 25 YEAR DESIGN WATER SURFACE ELEVATION



REVISIONS:

EXTENDED DRY BASIN

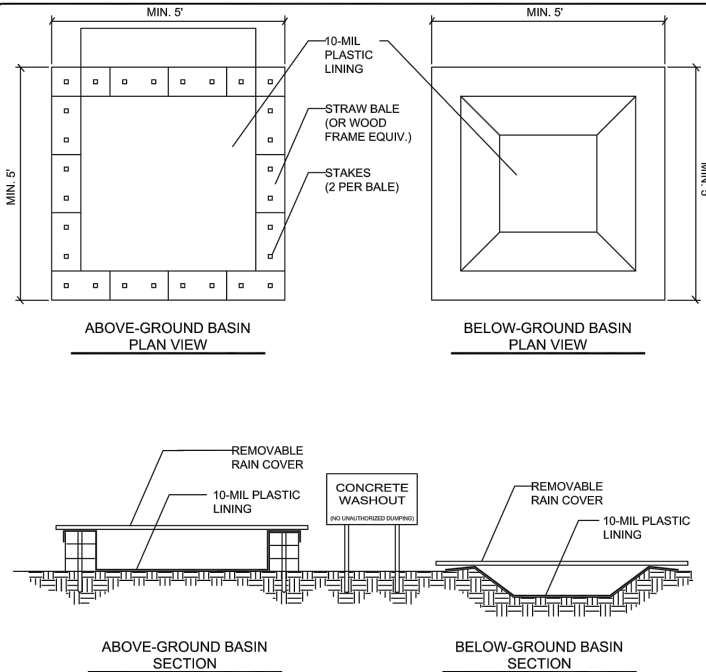
SCALE: N.T.S.
DATE: MARCH 2014
APPROVED BY: JAY H.
STANDARD DRAWING 461



REVISIONS:

SILT FENCE

SCALE: N.T.S.
DATE: MAY 2007
APPROVED BY: D. DANICIC
STANDARD DRAWING 602



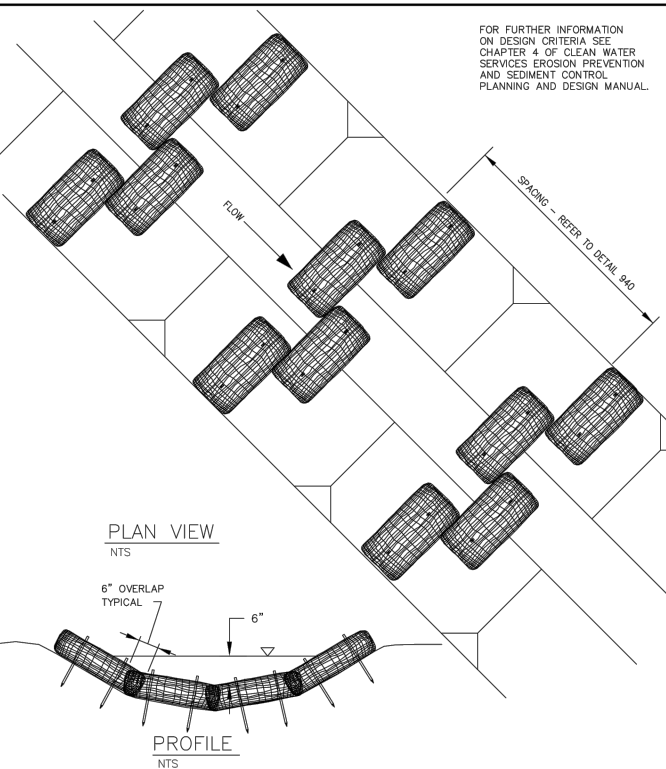
- NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
 2. "CONCRETE WASHOUT" SIGN TO BE LOCATED ADJACENT TO WASHOUT FACILITY.
 3. REMOVABLE RAIN COVER REQUIRED DURING WET WEATHER SEASON.



REVISIONS:
NA

CONCRETE WASTE MANAGEMENT

SCALE: N.T.S.
DATE: 01/10/2014
APPROVED BY: JAY H.
STANDARD DRAWING 607



- NOTES:
1. STAKING OF BAGS REQUIRED USING (2) 1"x2" WOOD STAKES OR APPROVED EQUAL PER BAG.
 2. SURFACE MUST BE SMOOTH BEFORE APPLICATION.
 3. CHECK DAMS CAN BE CONSTRUCTED USING STRAW WATTLES OR OTHER MATERIALS AS APPROVED BY THE DISTRICT OR CITY.

CHECK DAM BIO-FILTER BAG



DRAWING NO. 845

REVISED 12-16

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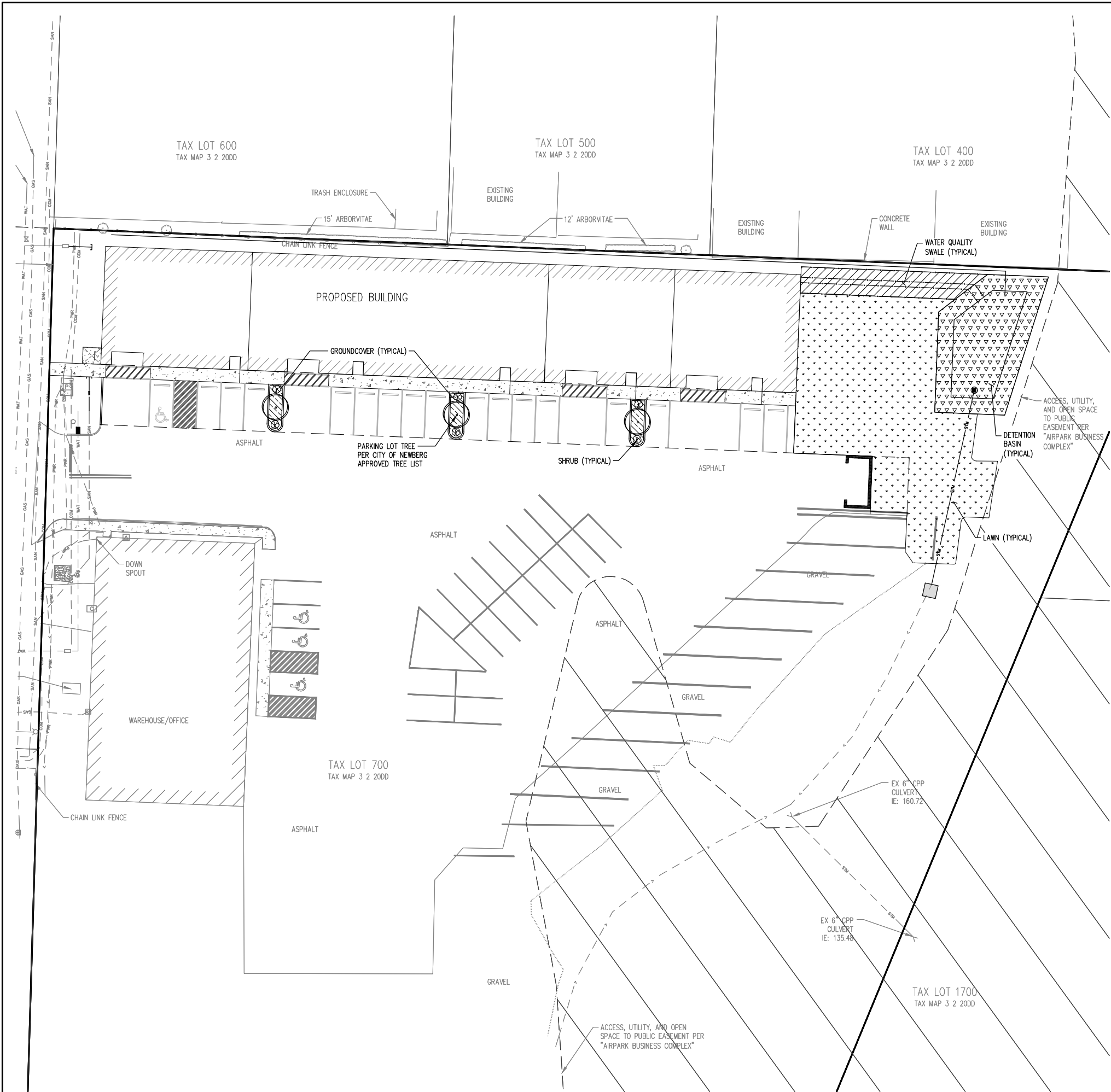
PRELIMINARY DETAILS

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CHECKED BY:
SCALE: AS NOTED
DATE: 09/27/2018
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




JOB NUMBER
6523
SHEET
C7

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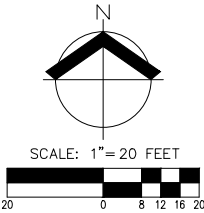


PLANT SCHEDULE

TREES	PLANT TYPE	SIZE/CONTAINER	SPACING
	PARKING LOT TREE PER CITY OF NEWBERG PLANT LIST	2" CAL. B&B	AS SHOWN
	SHRUB (TYPICAL)	2 GAL. CONT.	36" o.c.
GROUND COVERS		SIZE/CONTAINER	SPACING
	GROUND COVER	1 GAL. CONT.	30" o.c.
	LAWN		
	DETENTION BASIN - TO BE PLANTED PER CITY OF NEWBERG DESIGN STANDARDS MANUAL.		
	WATER QUALITY SWALE - TO BE PLANTED PER CITY OF NEWBERG DESIGN STANDARDS MANUAL.		

GENERAL NOTES:

- LANDSCAPE PLAN IS INTENDED TO PORTRAY CONCEPTUAL DESIGN INTENT. REVISIONS, INCLUDING CHANGES TO PLANT LOCATION, LAYOUT, SPECIES, SIZES, SPACING, QUANTITIES, CONDITION, ETC. MAY BE MADE WHERE ALLOWED BY CITY OF NEWBERG DESIGN STANDARDS.
- ALL PLANTS AND PLANTINGS SHALL CONFORM TO CITY OF NEWBERG LANDSCAPE DESIGN STANDARDS AND TO AMERICAN NURSERY STANDARDS ASN 1260.1. PLANT IN ACCORDANCE WITH BEST-PRACTICE INDUSTRY STANDARDS, SUCH AS THOSE ADOPTED BY THE OREGON LANDSCAPE CONTRACTOR'S BOARD (OLCB).
- DISTURBED LAWN AREAS TO BE RESTORED TO PRE-CONSTRUCTION CONDITIONS.
- IRRIGATION: WATER EFFICIENT, PERMANENT IRRIGATION SHALL BE PROVIDED IN ALL NEW LANDSCAPE AREAS.
- MAINTENANCE: ALL LANDSCAPE AREAS SHALL BE MAINTAINED FOR THE DURATION OF THE PLANTING TO ENCOURAGE HEALTH OF PLANT MATERIAL AS WELL AS PUBLIC HEALTH AND SAFETY. ALL TREES AND SHRUBS SHALL BE PRUNED TO MAINTAIN HEALTH AND STRUCTURE OF THE PLANT MATERIAL FOR PUBLIC SAFETY PURPOSES.



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PRELIMINARY
LANDSCAPE PLAN

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SCALE: AS NOTED
DATE: 09/27/2018

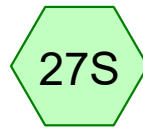
PRELIMINARY
NOT FOR
CONSTRUCTION

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6523
SHEET
11

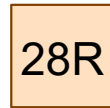
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PRE DEVELOPED



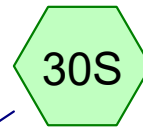
POST IMP



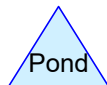
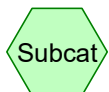
vegetated swale



Detention Pond



POST PERVIOUS



Routing Diagram for 6523 20180419 Stormwater Model
Prepared by AKS ENGINEERING & FORESTRY, Printed 9/27/2018
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6523 20180419 Stormwater Model

Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

Prepared by AKS ENGINEERING & FORESTRY

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Page 2

Time span=0.00-72.00 hrs, dt=0.010 hrs, 7201 points

Runoff by SBUH method, Split Pervious/Imperv.

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: PRE DEVELOPEDRunoff Area=20,884 sf 0.00% Impervious Runoff Depth=0.15"
Flow Length=150' Slope=0.0200 '/' Tc=15.3 min CN=79/0 Runoff=0.01 cfs 266 cf**Subcatchment27S: POST IMP**Runoff Area=13,316 sf 100.00% Impervious Runoff Depth=1.03"
Tc=5.0 min CN=0/98 Runoff=0.08 cfs 1,148 cf**Subcatchment30S: POST PERVIOUS**Runoff Area=7,569 sf 0.00% Impervious Runoff Depth=0.07"
Tc=5.0 min CN=74/0 Runoff=0.00 cfs 47 cf**Reach 28R: vegetated swale**Avg. Flow Depth=0.21' Max Vel=0.13 fps Inflow=0.08 cfs 1,148 cf
n=0.240 L=65.0' S=0.0049 '/' Capacity=1.82 cfs Outflow=0.08 cfs 1,148 cf**Pond 29P: Detention Pond**Peak Elev=162.90' Storage=0.019 af Inflow=0.08 cfs 1,195 cf
Outflow=0.01 cfs 1,102 cf**Total Runoff Area = 41,769 sf Runoff Volume = 1,461 cf Average Runoff Depth = 0.42"**
68.12% Pervious = 28,453 sf 31.88% Impervious = 13,316 sf

6523 20180419 Stormwater Model

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Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

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Page 3

Summary for Subcatchment 1S: PRE DEVELOPED

Runoff = 0.01 cfs @ 17.65 hrs, Volume= 266 cf, Depth= 0.15"

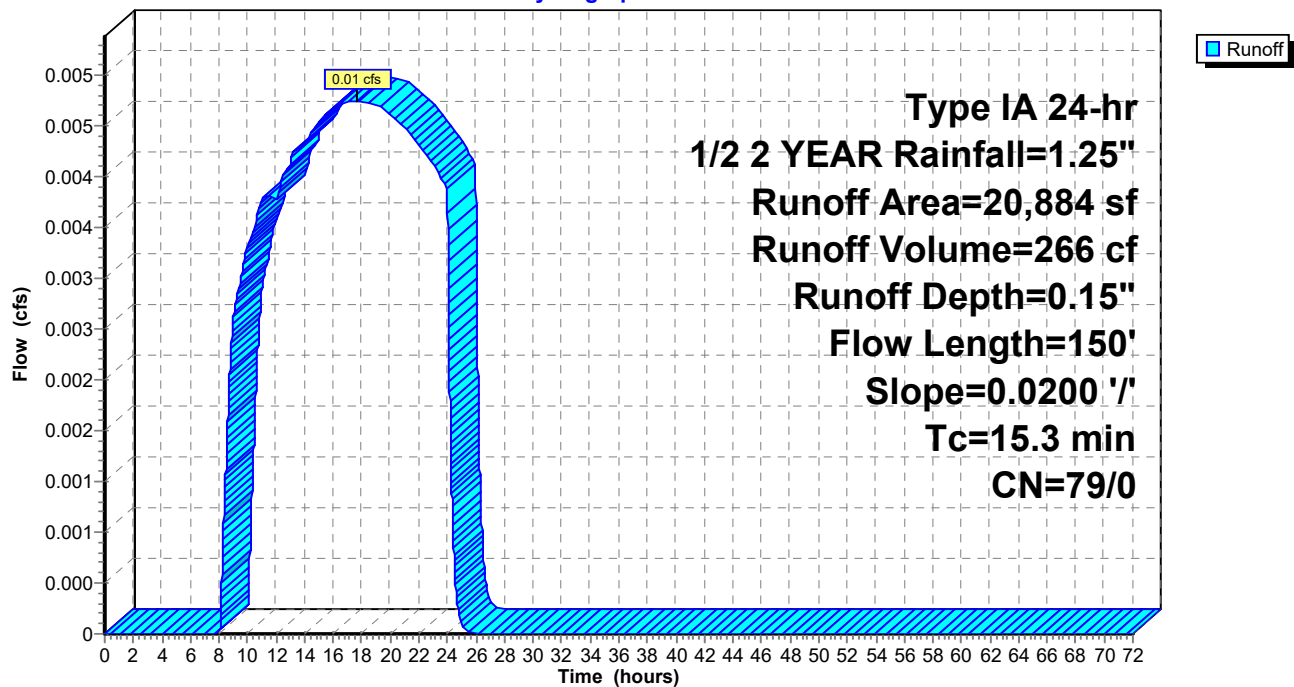
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

Area (sf)	CN	Description
20,884	79	50-75% Grass cover, Fair, HSG C
20,884		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	150	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.50"

Subcatchment 1S: PRE DEVELOPED

Hydrograph



6523 20180419 Stormwater Model

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Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

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Page 4

Summary for Subcatchment 27S: POST IMP

Runoff = 0.08 cfs @ 7.89 hrs, Volume= 1,148 cf, Depth= 1.03"

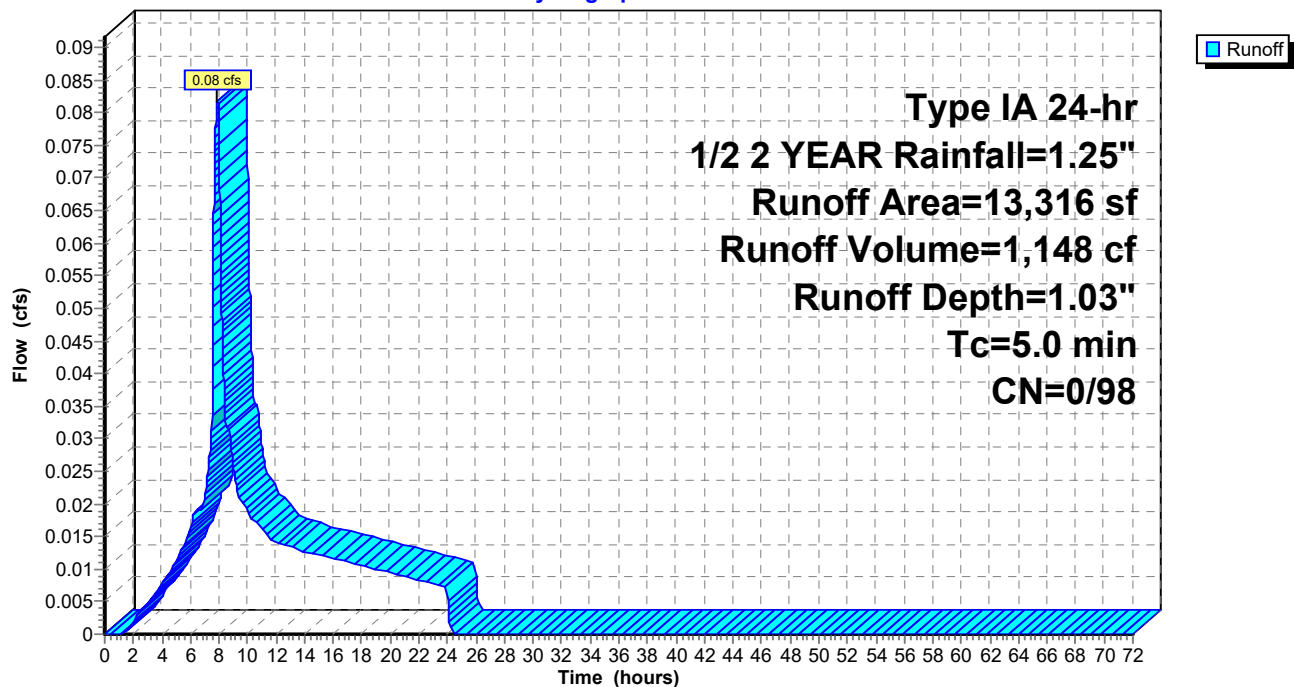
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

	Area (sf)	CN	Description
*	13,316	98	
	13,316		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 27S: POST IMP

Hydrograph



6523 20180419 Stormwater Model

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Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

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Page 5

Summary for Subcatchment 30S: POST PERVIOUS

Runoff = 0.00 cfs @ 19.95 hrs, Volume= 47 cf, Depth= 0.07"

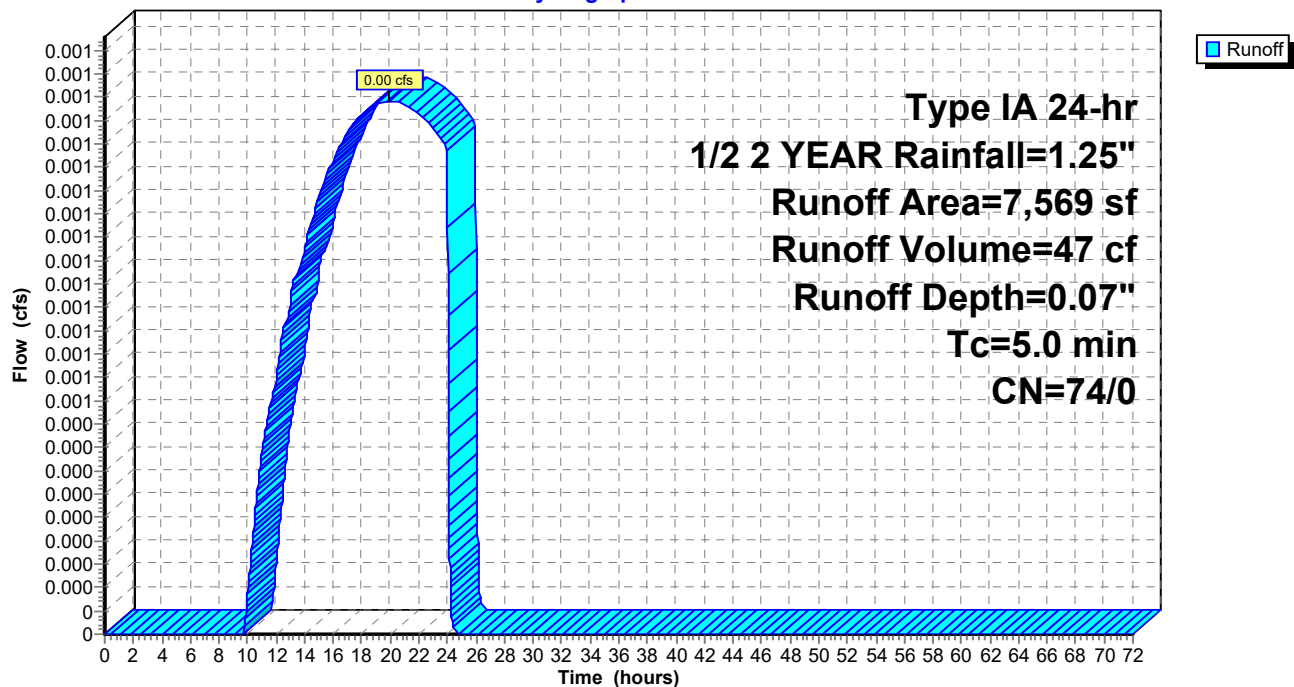
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

Area (sf)	CN	Description
7,569	74	>75% Grass cover, Good, HSG C
7,569		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 30S: POST PERVIOUS

Hydrograph



6523 20180419 Stormwater Model

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Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

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Page 6

Summary for Reach 28R: vegetated swale

Inflow Area = 13,316 sf, 100.00% Impervious, Inflow Depth = 1.03" for 1/2 2 YEAR event
Inflow = 0.08 cfs @ 7.89 hrs, Volume= 1,148 cf
Outflow = 0.08 cfs @ 8.00 hrs, Volume= 1,148 cf, Atten= 3%, Lag= 6.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs

Max. Velocity= 0.13 fps, Min. Travel Time= 8.4 min

Avg. Velocity = 0.06 fps, Avg. Travel Time= 18.0 min

Peak Storage= 40 cf @ 8.00 hrs

Average Depth at Peak Storage= 0.21'

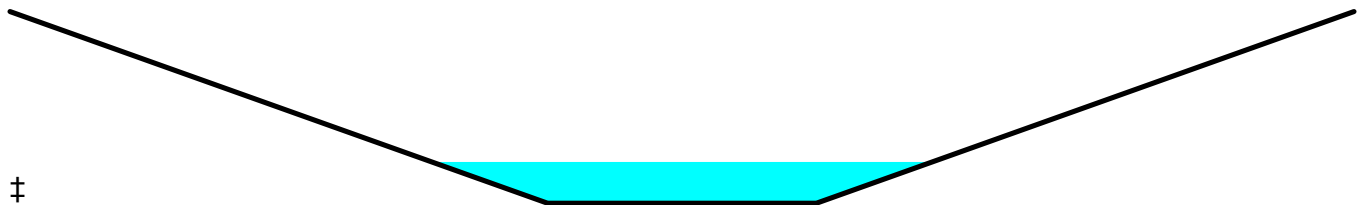
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 1.82 cfs

2.00' x 1.00' deep channel, n= 0.240

Side Slope Z-value= 4.0 '/' Top Width= 10.00'

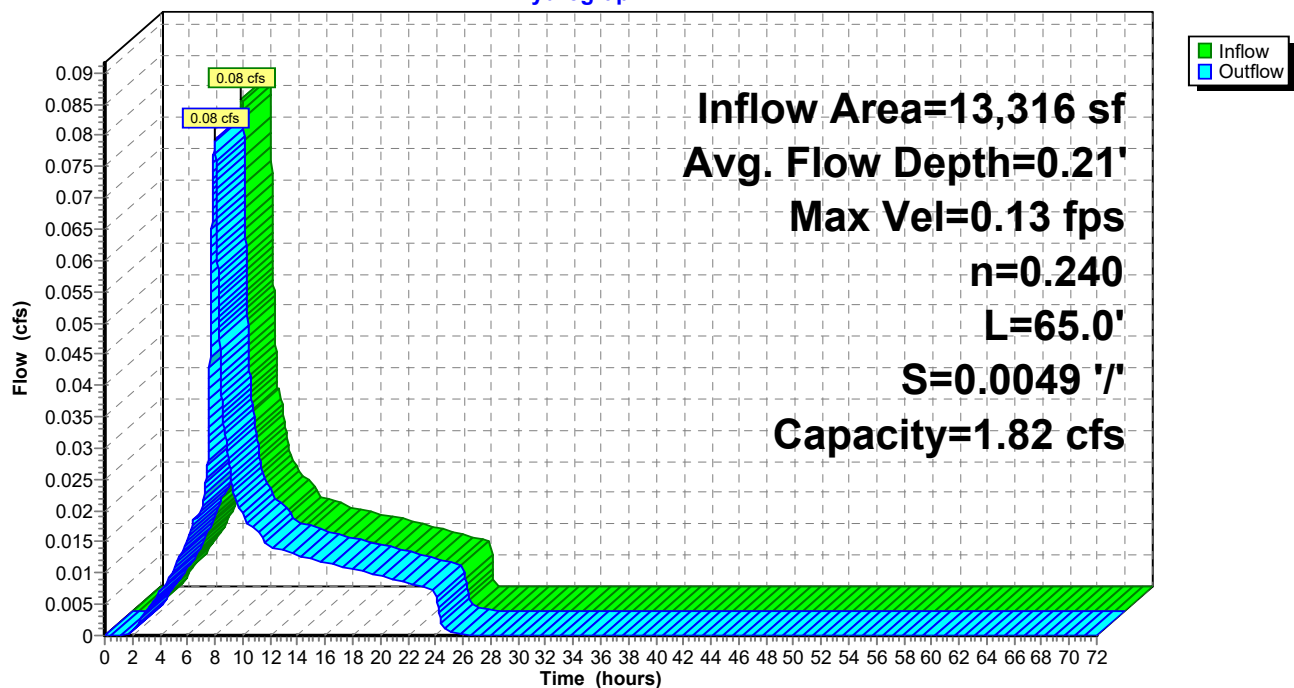
Length= 65.0' Slope= 0.0049 '/'

Inlet Invert= 164.43', Outlet Invert= 164.11'



Reach 28R: vegetated swale

Hydrograph



6523 20180419 Stormwater Model

Type IA 24-hr 1/2 2 YEAR Rainfall=1.25"

Prepared by AKS ENGINEERING & FORESTRY

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Page 7

Summary for Pond 29P: Detention Pond

Inflow Area = 20,885 sf, 63.76% Impervious, Inflow Depth = 0.69" for 1/2 2 YEAR event
 Inflow = 0.08 cfs @ 8.00 hrs, Volume= 1,195 cf
 Outflow = 0.01 cfs @ 24.02 hrs, Volume= 1,102 cf, Atten= 90%, Lag= 961.5 min
 Primary = 0.01 cfs @ 24.02 hrs, Volume= 1,102 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
 Peak Elev= 162.90' @ 24.02 hrs Surf.Area= 0.025 ac Storage= 0.019 af

Plug-Flow detention time= 1,399.1 min calculated for 1,102 cf (92% of inflow)
 Center-of-Mass det. time= 1,345.4 min (2,074.6 - 729.2)

Volume	Invert	Avail.Storage	Storage Description
#1	162.00'	0.052 af	30.00'W x 25.00'L x 2.00'H Prismatic Z=3.0

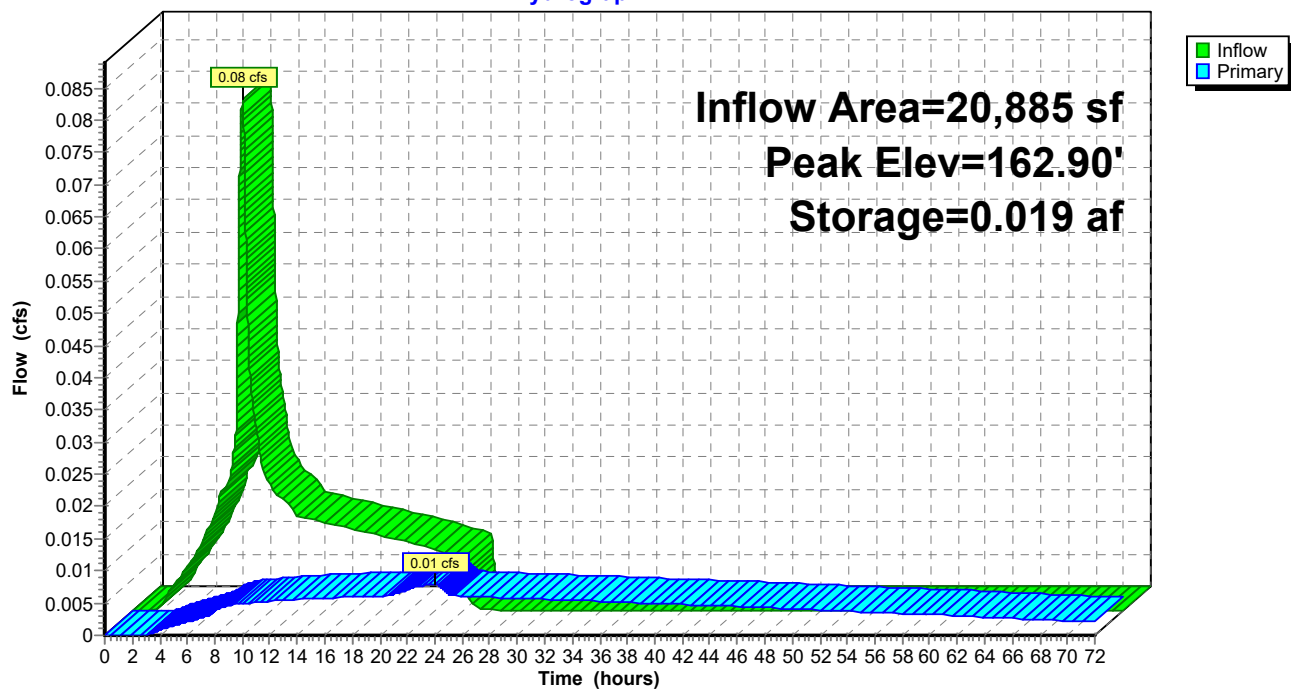
Device	Routing	Invert	Outlet Devices
#1	Primary	162.00'	6.0" Round Culvert L= 1.0' Ke= 0.500 Inlet / Outlet Invert= 162.00' / 161.99' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf
#2	Device 1	162.00'	0.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	162.87'	3.0" Vert. Orifice/Grate C= 0.600
#4	Device 1	163.50'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 24.02 hrs HW=162.90' (Free Discharge)

- 1=Culvert (Passes 0.01 cfs of 0.76 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.01 cfs @ 4.51 fps)
- 3=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.58 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Pond 29P: Detention Pond

Hydrograph



6523 20180419 Stormwater Model*Type IA 24-hr 2 YEAR Rainfall=2.50"*

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Time span=0.00-72.00 hrs, dt=0.010 hrs, 7201 points

Runoff by SBUH method, Split Pervious/Imperv.

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: PRE DEVELOPED

Runoff Area=20,884 sf 0.00% Impervious Runoff Depth=0.84"

Flow Length=150' Slope=0.0200 '/' Tc=15.3 min CN=79/0 Runoff=0.06 cfs 1,457 cf

Subcatchment27S: POST IMP

Runoff Area=13,316 sf 100.00% Impervious Runoff Depth=2.27"

Tc=5.0 min CN=0/98 Runoff=0.18 cfs 2,520 cf

Subcatchment30S: POST PERVIOUS

Runoff Area=7,569 sf 0.00% Impervious Runoff Depth=0.61"

Tc=5.0 min CN=74/0 Runoff=0.02 cfs 384 cf

Reach 28R: vegetated swaleAvg. Flow Depth=0.32' Max Vel=0.16 fps Inflow=0.18 cfs 2,520 cf
n=0.240 L=65.0' S=0.0049 '/' Capacity=1.82 cfs Outflow=0.17 cfs 2,520 cf**Pond 29P: Detention Pond**Peak Elev=163.05' Storage=0.023 af Inflow=0.19 cfs 2,903 cf
Outflow=0.06 cfs 2,802 cf**Total Runoff Area = 41,769 sf Runoff Volume = 4,361 cf Average Runoff Depth = 1.25"**
68.12% Pervious = 28,453 sf 31.88% Impervious = 13,316 sf

6523 20180419 Stormwater Model

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Type IA 24-hr 2 YEAR Rainfall=2.50"

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Summary for Subcatchment 1S: PRE DEVELOPED

Runoff = 0.06 cfs @ 8.01 hrs, Volume= 1,457 cf, Depth= 0.84"

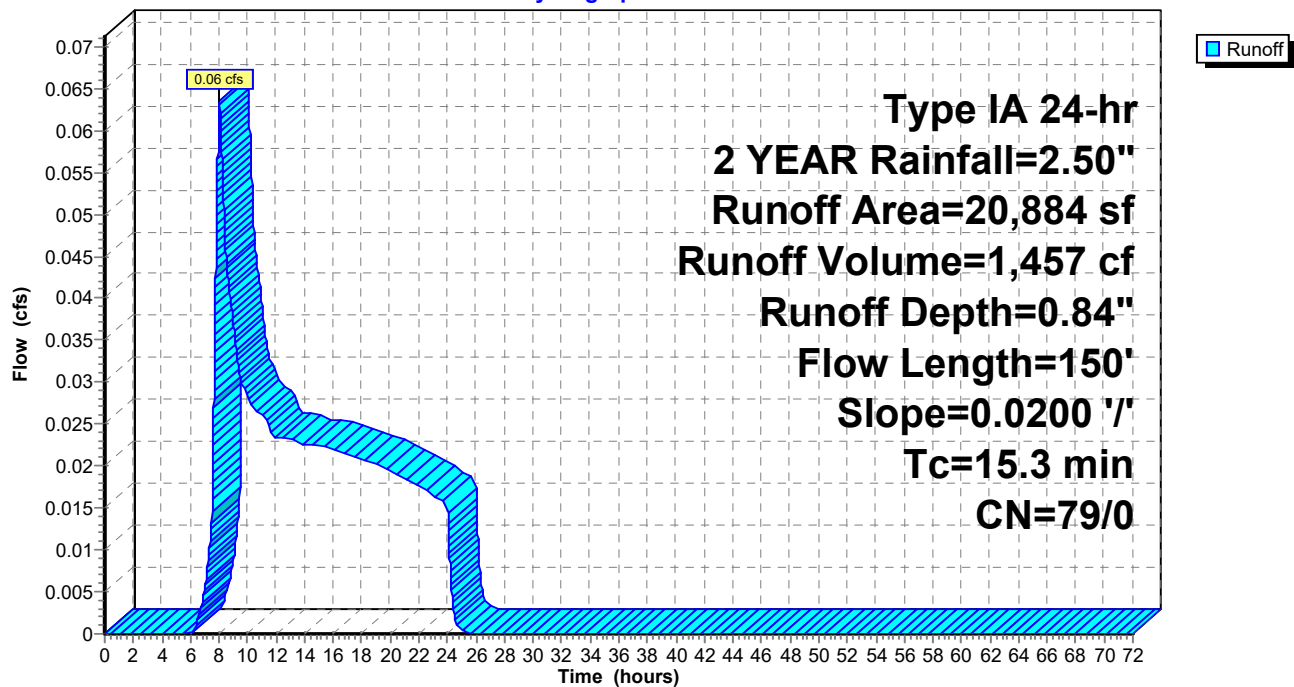
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 2 YEAR Rainfall=2.50"

Area (sf)	CN	Description
20,884	79	50-75% Grass cover, Fair, HSG C
20,884		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	150	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.50"

Subcatchment 1S: PRE DEVELOPED

Hydrograph



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Type IA 24-hr 2 YEAR Rainfall=2.50"

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Summary for Subcatchment 27S: POST IMP

Runoff = 0.18 cfs @ 7.88 hrs, Volume= 2,520 cf, Depth= 2.27"

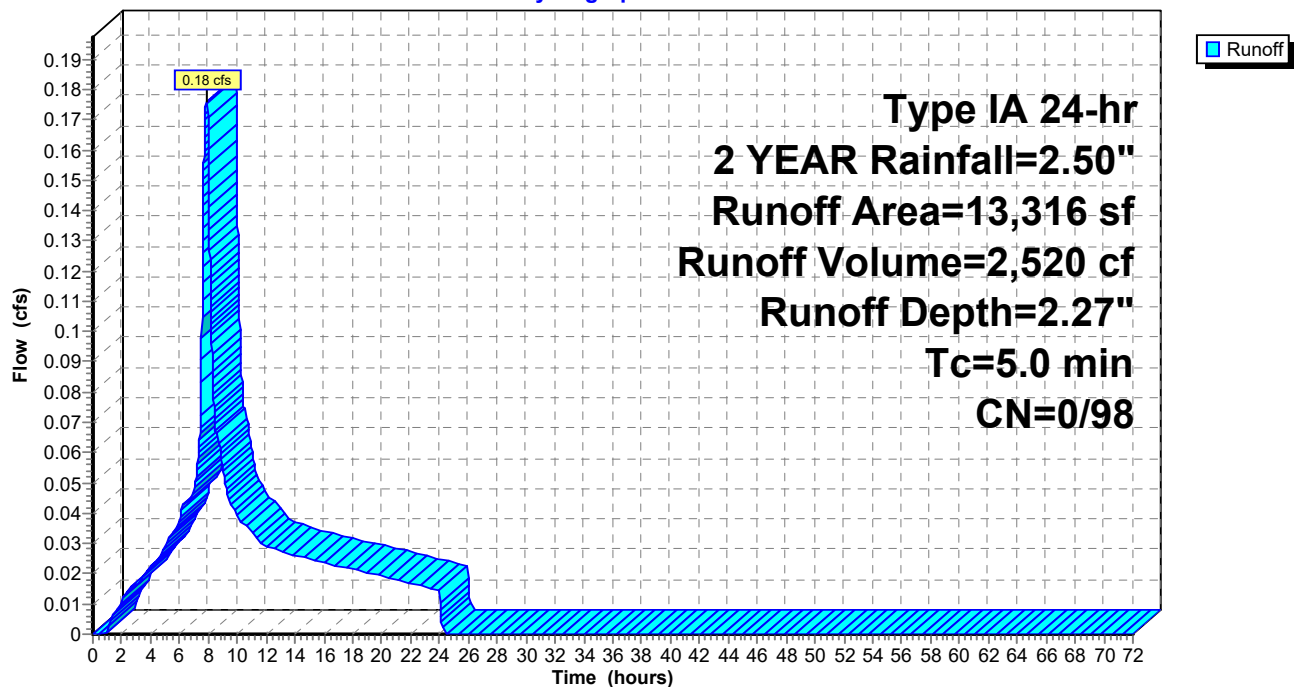
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 2 YEAR Rainfall=2.50"

	Area (sf)	CN	Description
*	13,316	98	
	13,316		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 27S: POST IMP

Hydrograph



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Type IA 24-hr 2 YEAR Rainfall=2.50"

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Summary for Subcatchment 30S: POST PERVIOUS

Runoff = 0.02 cfs @ 8.00 hrs, Volume= 384 cf, Depth= 0.61"

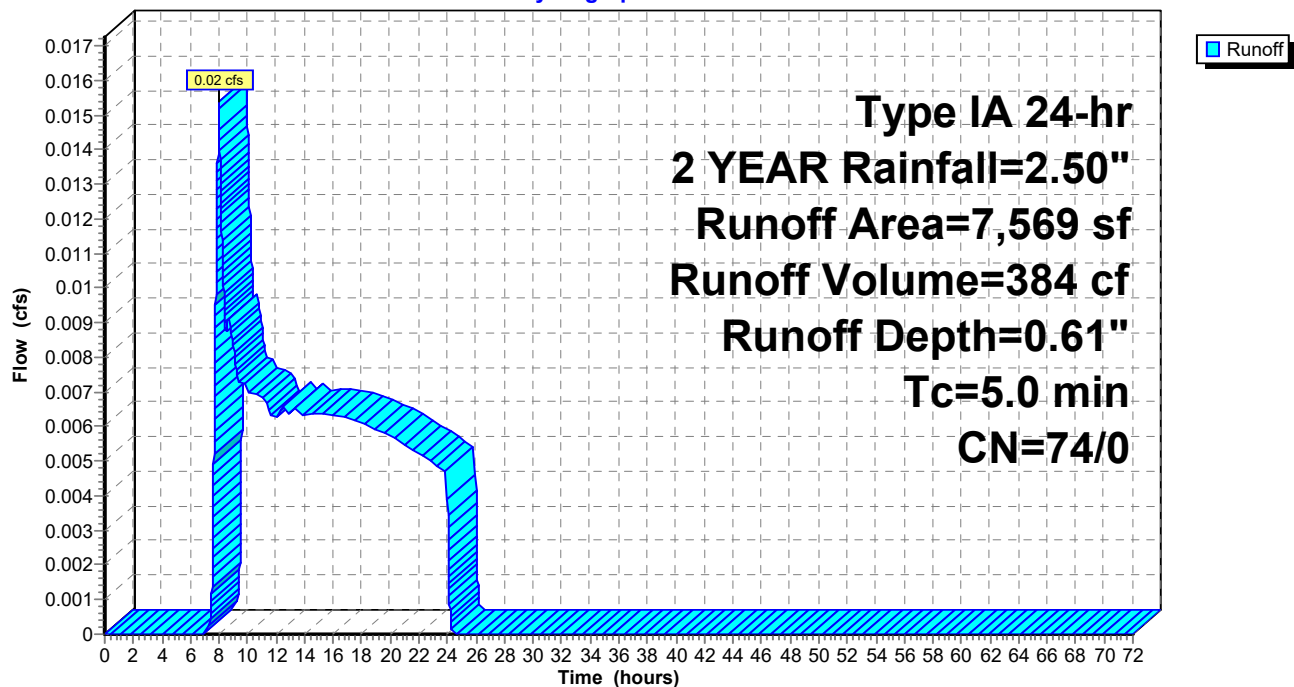
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 2 YEAR Rainfall=2.50"

Area (sf)	CN	Description
7,569	74	>75% Grass cover, Good, HSG C
7,569		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 30S: POST PERVIOUS

Hydrograph



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Type IA 24-hr 2 YEAR Rainfall=2.50"

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Summary for Reach 28R: vegetated swale

Inflow Area = 13,316 sf, 100.00% Impervious, Inflow Depth = 2.27" for 2 YEAR event
Inflow = 0.18 cfs @ 7.88 hrs, Volume= 2,520 cf
Outflow = 0.17 cfs @ 7.97 hrs, Volume= 2,520 cf, Atten= 2%, Lag= 5.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs

Max. Velocity= 0.16 fps, Min. Travel Time= 6.7 min

Avg. Velocity= 0.08 fps, Avg. Travel Time= 14.1 min

Peak Storage= 69 cf @ 7.97 hrs

Average Depth at Peak Storage= 0.32'

Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 1.82 cfs

2.00' x 1.00' deep channel, n= 0.240

Side Slope Z-value= 4.0 ' ' Top Width= 10.00'

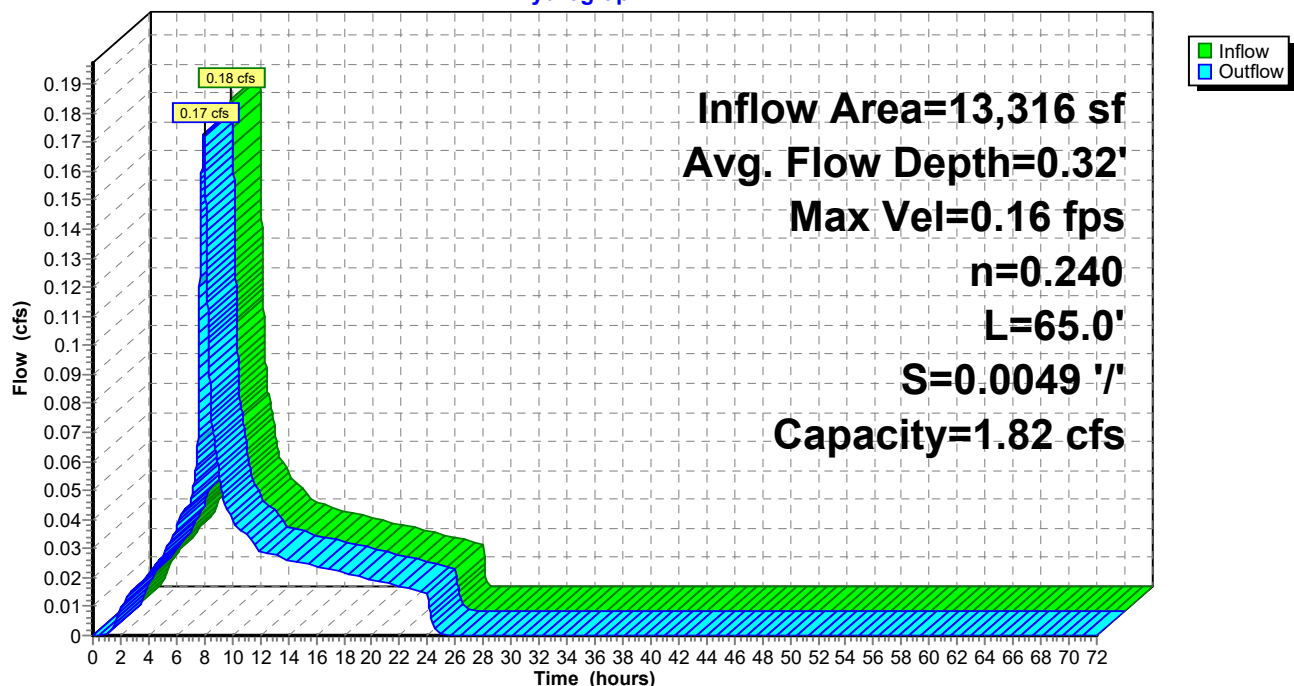
Length= 65.0' Slope= 0.0049 ' '

Inlet Invert= 164.43', Outlet Invert= 164.11'



Reach 28R: vegetated swale

Hydrograph



6523 20180419 Stormwater Model

Type IA 24-hr 2 YEAR Rainfall=2.50"

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Summary for Pond 29P: Detention Pond

Inflow Area = 20,885 sf, 63.76% Impervious, Inflow Depth = 1.67" for 2 YEAR event
 Inflow = 0.19 cfs @ 7.99 hrs, Volume= 2,903 cf
 Outflow = 0.06 cfs @ 9.10 hrs, Volume= 2,802 cf, Atten= 67%, Lag= 66.9 min
 Primary = 0.06 cfs @ 9.10 hrs, Volume= 2,802 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
 Peak Elev= 163.05' @ 9.10 hrs Surf.Area= 0.026 ac Storage= 0.023 af

Plug-Flow detention time= 668.0 min calculated for 2,802 cf (96% of inflow)
 Center-of-Mass det. time= 642.5 min (1,354.8 - 712.3)

Volume	Invert	Avail.Storage	Storage Description
#1	162.00'	0.052 af	30.00'W x 25.00'L x 2.00'H Prismatic Z=3.0

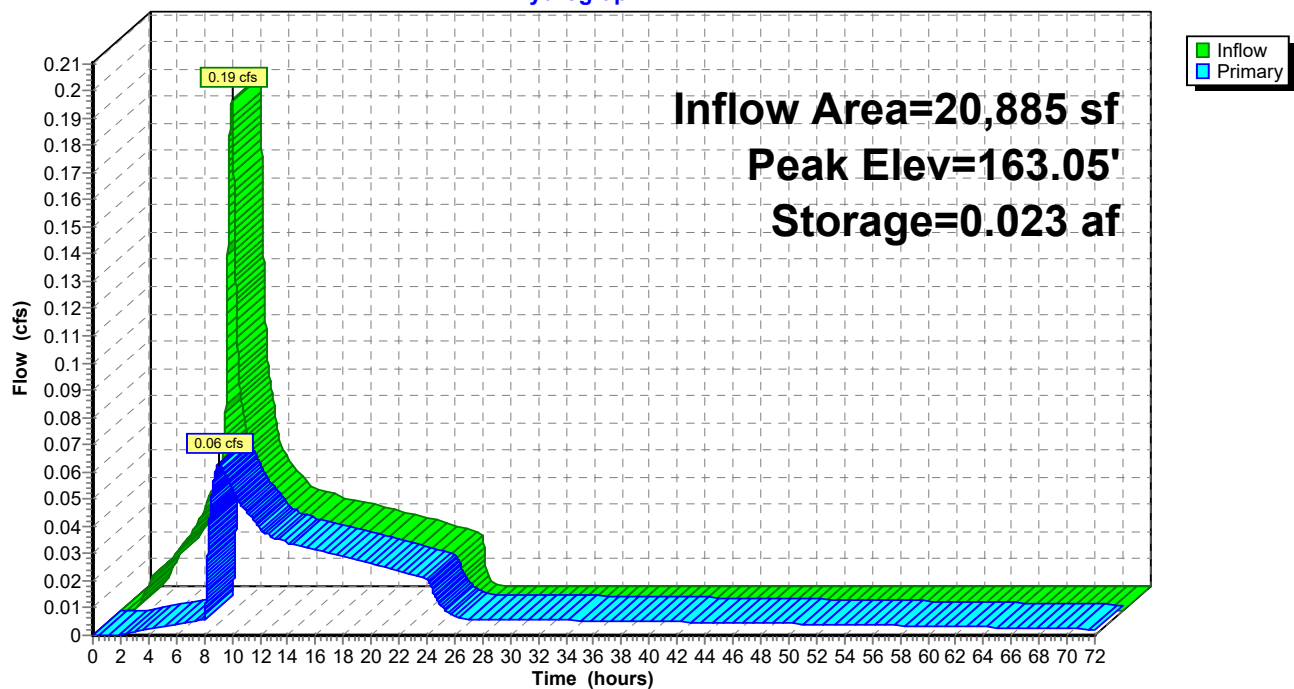
Device	Routing	Invert	Outlet Devices
#1	Primary	162.00'	6.0" Round Culvert L= 1.0' Ke= 0.500 Inlet / Outlet Invert= 162.00' / 161.99' S= 0.0100' / Cc= 0.900 n= 0.013, Flow Area= 0.20 sf
#2	Device 1	162.00'	0.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	162.87'	3.0" Vert. Orifice/Grate C= 0.600
#4	Device 1	163.50'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.06 cfs @ 9.10 hrs HW=163.05' (Free Discharge)

- 1=Culvert (Passes 0.06 cfs of 0.85 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.01 cfs @ 4.89 fps)
- 3=Orifice/Grate (Orifice Controls 0.06 cfs @ 1.46 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Pond 29P: Detention Pond

Hydrograph



6523 20180419 Stormwater Model*Type IA 24-hr 10 YEAR Rainfall=3.50"*

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Time span=0.00-72.00 hrs, dt=0.010 hrs, 7201 points

Runoff by SBUH method, Split Pervious/Imperv.

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: PRE DEVELOPED

Runoff Area=20,884 sf 0.00% Impervious Runoff Depth=1.57"

Flow Length=150' Slope=0.0200 '/' Tc=15.3 min CN=79/0 Runoff=0.14 cfs 2,725 cf

Subcatchment27S: POST IMP

Runoff Area=13,316 sf 100.00% Impervious Runoff Depth=3.27"

Tc=5.0 min CN=0/98 Runoff=0.25 cfs 3,625 cf

Subcatchment30S: POST PERVIOUS

Runoff Area=7,569 sf 0.00% Impervious Runoff Depth=1.24"

Tc=5.0 min CN=74/0 Runoff=0.04 cfs 782 cf

Reach 28R: vegetated swaleAvg. Flow Depth=0.39' Max Vel=0.18 fps Inflow=0.25 cfs 3,625 cf
n=0.240 L=65.0' S=0.0049 '/' Capacity=1.82 cfs Outflow=0.25 cfs 3,625 cf**Pond 29P: Detention Pond**

Peak Elev=163.28' Storage=0.029 af Inflow=0.29 cfs 4,407 cf

Outflow=0.13 cfs 4,303 cf

Total Runoff Area = 41,769 sf Runoff Volume = 7,132 cf Average Runoff Depth = 2.05"**68.12% Pervious = 28,453 sf 31.88% Impervious = 13,316 sf**

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Type IA 24-hr 10 YEAR Rainfall=3.50"

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Summary for Subcatchment 1S: PRE DEVELOPED

Runoff = 0.14 cfs @ 8.00 hrs, Volume= 2,725 cf, Depth= 1.57"

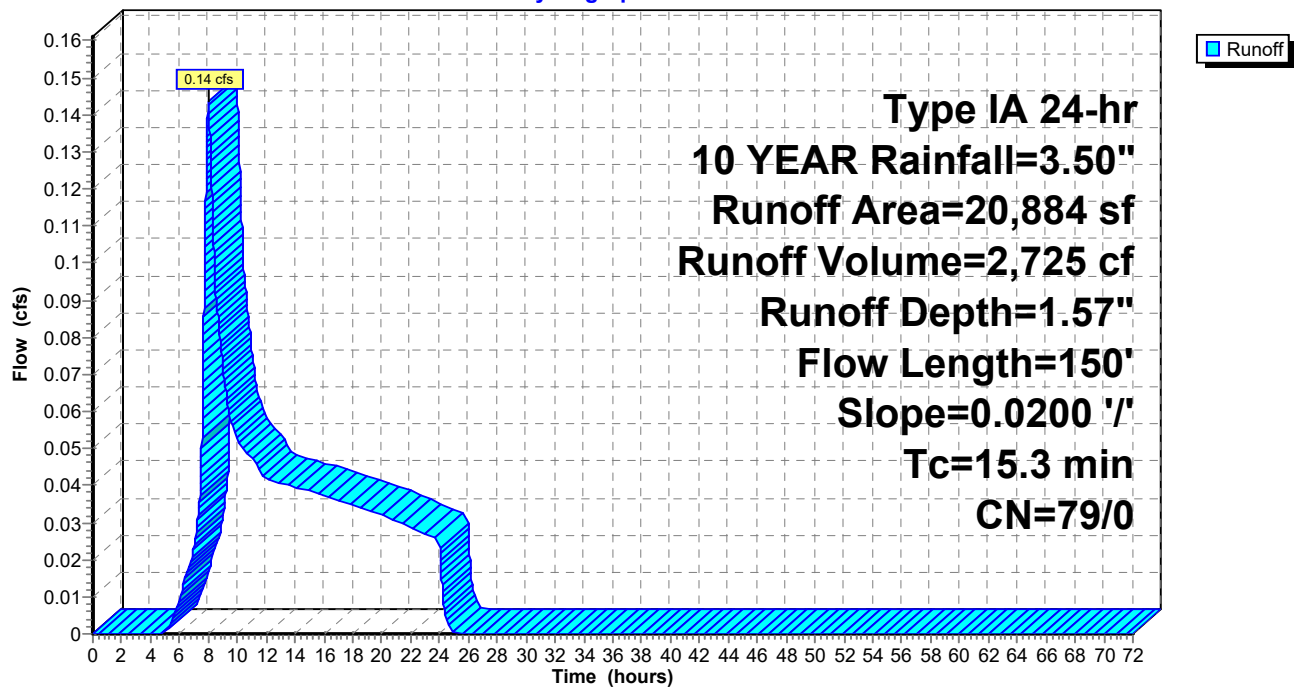
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 10 YEAR Rainfall=3.50"

Area (sf)	CN	Description
20,884	79	50-75% Grass cover, Fair, HSG C
20,884		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	150	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.50"

Subcatchment 1S: PRE DEVELOPED

Hydrograph



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Type IA 24-hr 10 YEAR Rainfall=3.50"

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Summary for Subcatchment 27S: POST IMP

Runoff = 0.25 cfs @ 7.88 hrs, Volume= 3,625 cf, Depth= 3.27"

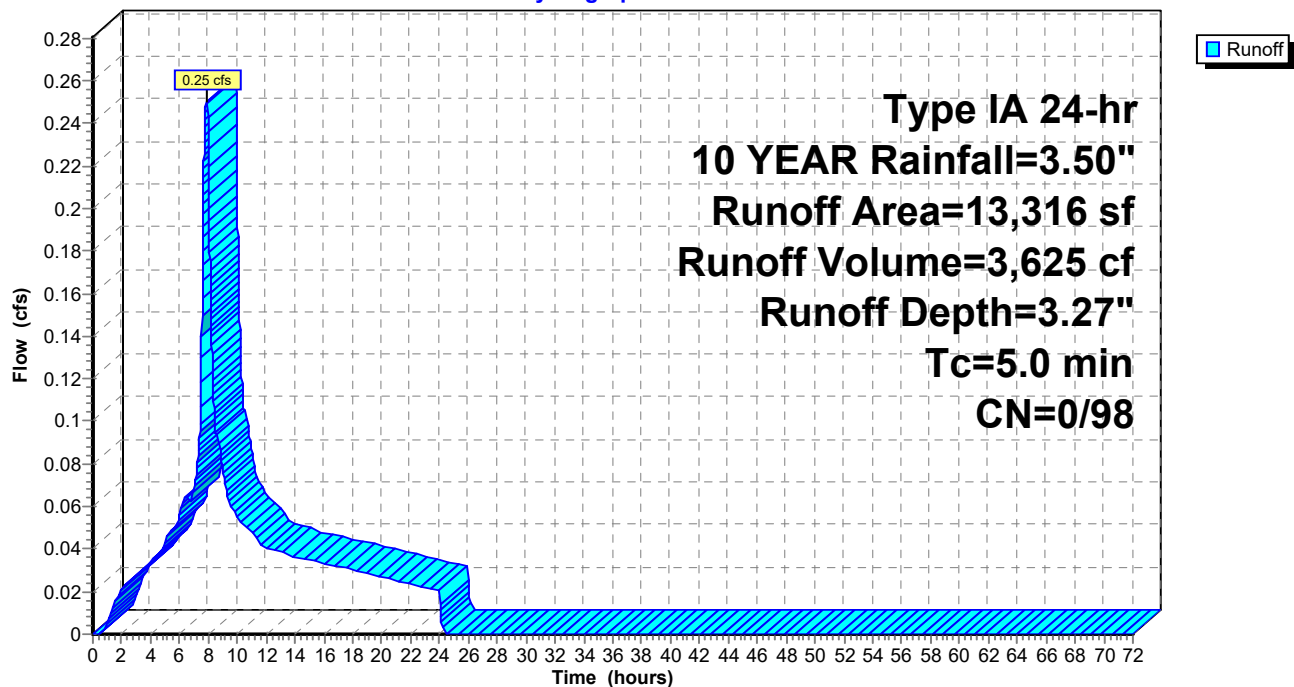
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 10 YEAR Rainfall=3.50"

	Area (sf)	CN	Description
*	13,316	98	
	13,316		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 27S: POST IMP

Hydrograph



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Type IA 24-hr 10 YEAR Rainfall=3.50"

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Summary for Subcatchment 30S: POST PERVIOUS

Runoff = 0.04 cfs @ 8.00 hrs, Volume= 782 cf, Depth= 1.24"

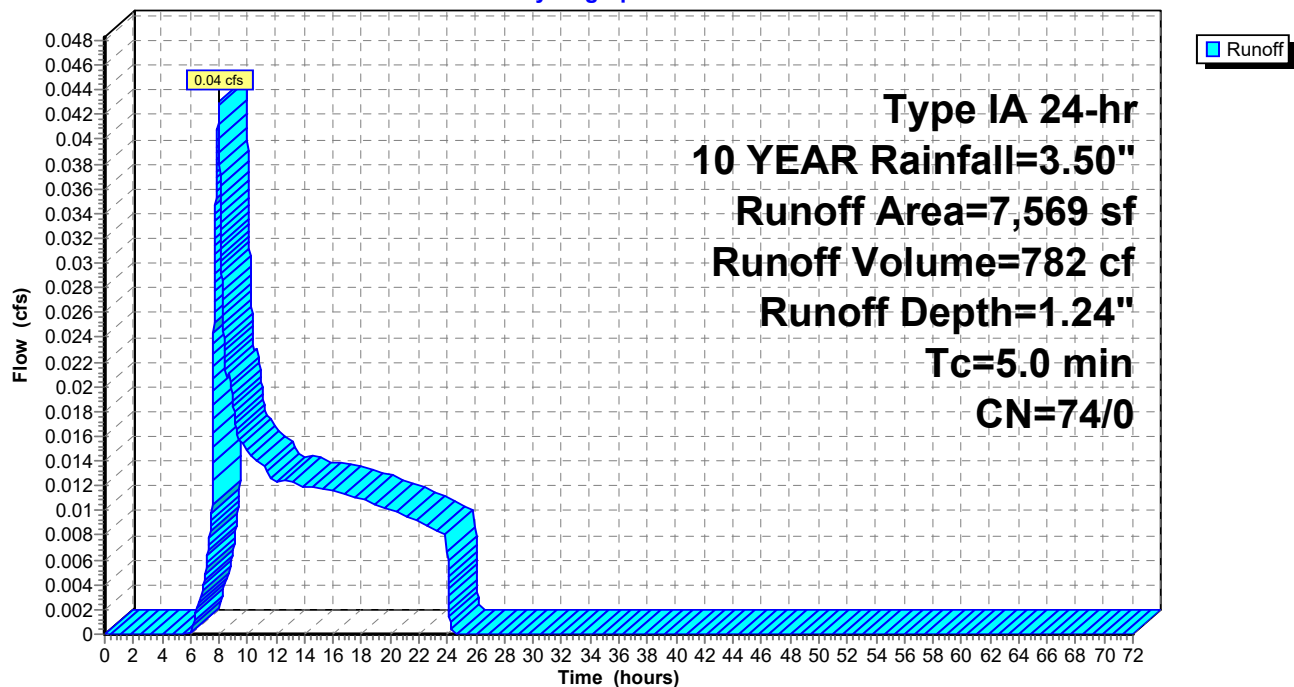
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 10 YEAR Rainfall=3.50"

Area (sf)	CN	Description
7,569	74	>75% Grass cover, Good, HSG C
7,569		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 30S: POST PERVIOUS

Hydrograph



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Type IA 24-hr 10 YEAR Rainfall=3.50"

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Summary for Reach 28R: vegetated swale

Inflow Area = 13,316 sf, 100.00% Impervious, Inflow Depth = 3.27" for 10 YEAR event
Inflow = 0.25 cfs @ 7.88 hrs, Volume= 3,625 cf
Outflow = 0.25 cfs @ 7.96 hrs, Volume= 3,625 cf, Atten= 2%, Lag= 4.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs

Max. Velocity= 0.18 fps, Min. Travel Time= 6.0 min

Avg. Velocity= 0.09 fps, Avg. Travel Time= 12.6 min

Peak Storage= 89 cf @ 7.96 hrs

Average Depth at Peak Storage= 0.39'

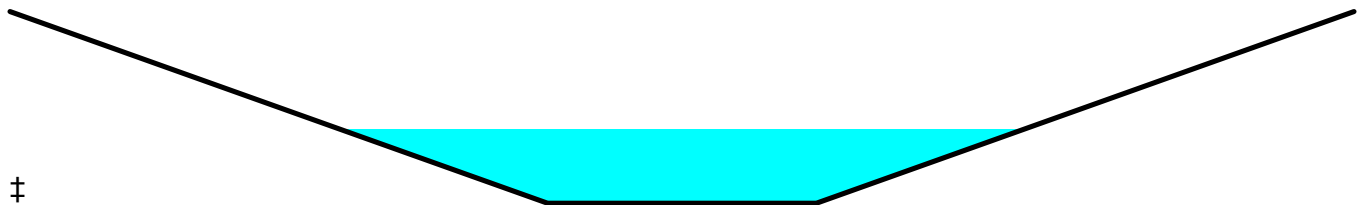
Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 1.82 cfs

2.00' x 1.00' deep channel, n= 0.240

Side Slope Z-value= 4.0 '/' Top Width= 10.00'

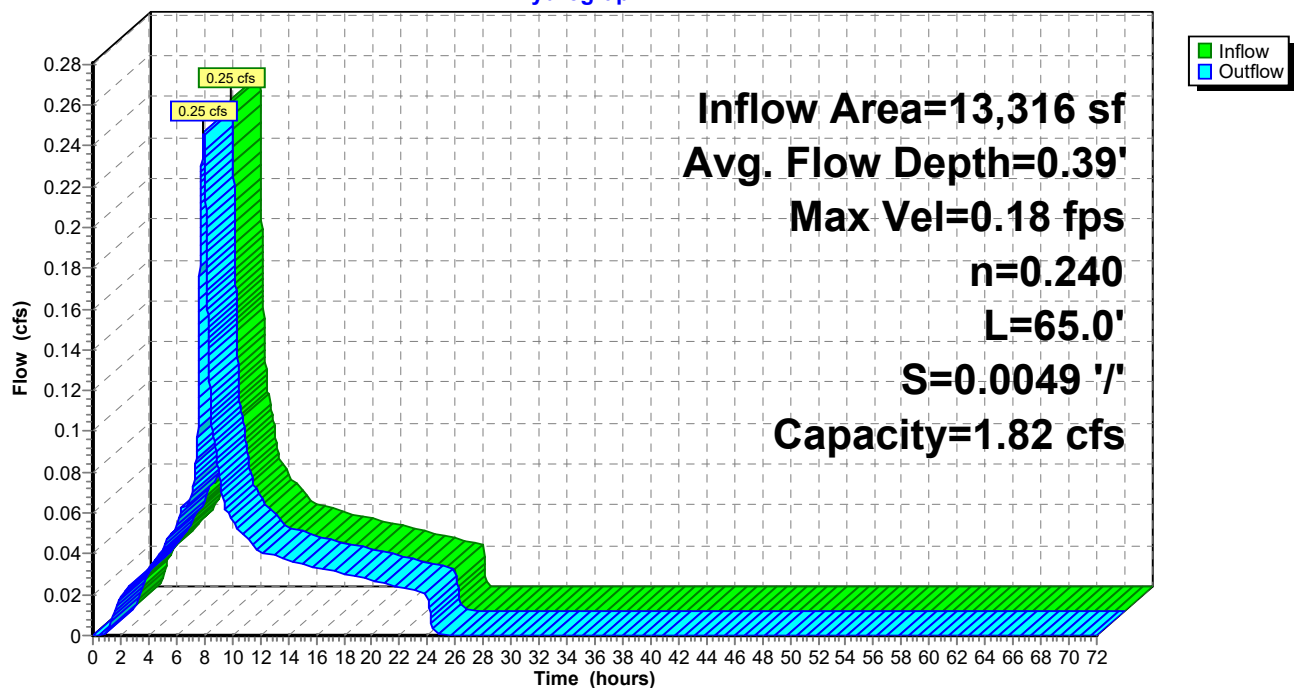
Length= 65.0' Slope= 0.0049 '/'

Inlet Invert= 164.43', Outlet Invert= 164.11'



Reach 28R: vegetated swale

Hydrograph



6523 20180419 Stormwater Model

Type IA 24-hr 10 YEAR Rainfall=3.50"

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Summary for Pond 29P: Detention Pond

Inflow Area = 20,885 sf, 63.76% Impervious, Inflow Depth = 2.53" for 10 YEAR event
 Inflow = 0.29 cfs @ 7.97 hrs, Volume= 4,407 cf
 Outflow = 0.13 cfs @ 8.45 hrs, Volume= 4,303 cf, Atten= 54%, Lag= 29.0 min
 Primary = 0.13 cfs @ 8.45 hrs, Volume= 4,303 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
 Peak Elev= 163.28' @ 8.45 hrs Surf.Area= 0.028 ac Storage= 0.029 af

Plug-Flow detention time= 465.1 min calculated for 4,302 cf (98% of inflow)
 Center-of-Mass det. time= 448.0 min (1,152.2 - 704.3)

Volume	Invert	Avail.Storage	Storage Description
#1	162.00'	0.052 af	30.00'W x 25.00'L x 2.00'H Prismatic Z=3.0

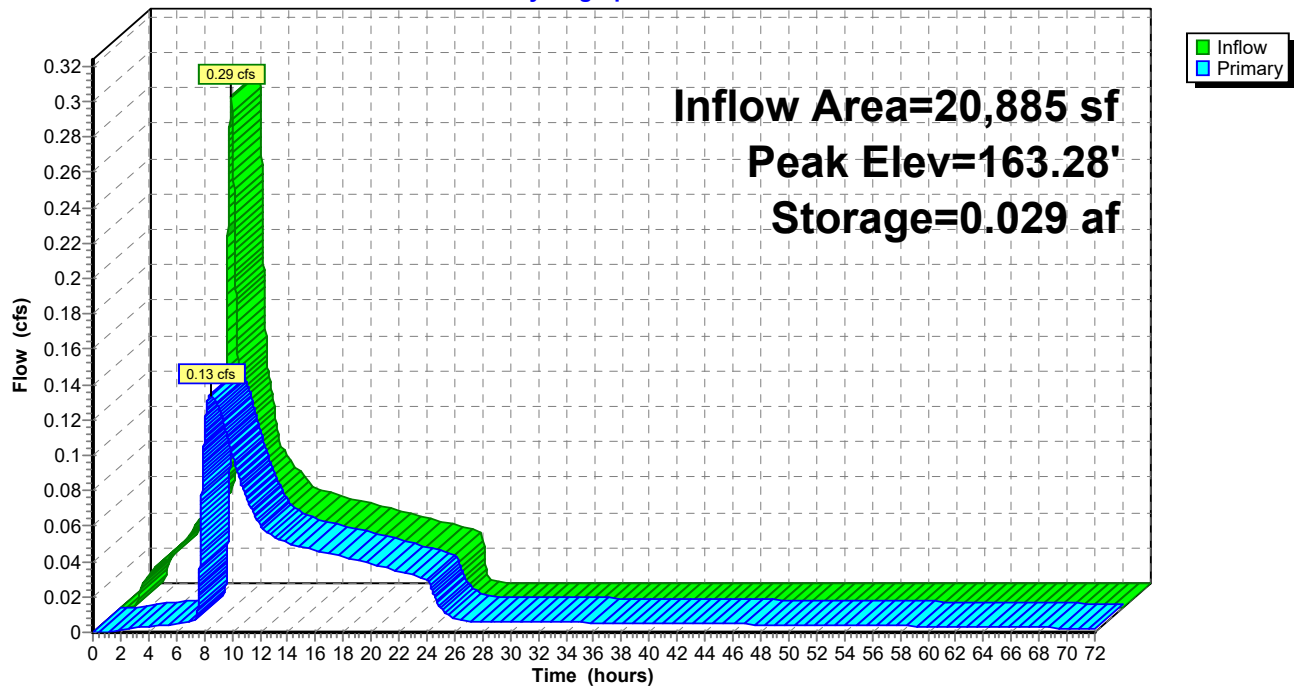
Device	Routing	Invert	Outlet Devices
#1	Primary	162.00'	6.0" Round Culvert L= 1.0' Ke= 0.500 Inlet / Outlet Invert= 162.00' / 161.99' S= 0.0100 ' / Cc= 0.900 n= 0.013, Flow Area= 0.20 sf
#2	Device 1	162.00'	0.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	162.87'	3.0" Vert. Orifice/Grate C= 0.600
#4	Device 1	163.50'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 8.45 hrs HW=163.28' (Free Discharge)

- 1=Culvert (Passes 0.13 cfs of 0.96 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.01 cfs @ 5.41 fps)
- 3=Orifice/Grate (Orifice Controls 0.13 cfs @ 2.58 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Pond 29P: Detention Pond

Hydrograph



6523 20180419 Stormwater Model*Type IA 24-hr 25 YEAR Rainfall=4.00"*

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Time span=0.00-72.00 hrs, dt=0.010 hrs, 7201 points

Runoff by SBUH method, Split Pervious/Imperv.

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: PRE DEVELOPED

Runoff Area=20,884 sf 0.00% Impervious Runoff Depth=1.96"

Flow Length=150' Slope=0.0200 '/' Tc=15.3 min CN=79/0 Runoff=0.19 cfs 3,417 cf

Subcatchment27S: POST IMP

Runoff Area=13,316 sf 100.00% Impervious Runoff Depth=3.77"

Tc=5.0 min CN=0/98 Runoff=0.29 cfs 4,178 cf

Subcatchment30S: POST PERVIOUS

Runoff Area=7,569 sf 0.00% Impervious Runoff Depth=1.60"

Tc=5.0 min CN=74/0 Runoff=0.06 cfs 1,007 cf

Reach 28R: vegetated swaleAvg. Flow Depth=0.42' Max Vel=0.19 fps Inflow=0.29 cfs 4,178 cf
n=0.240 L=65.0' S=0.0049 '/' Capacity=1.82 cfs Outflow=0.28 cfs 4,178 cf**Pond 29P: Detention Pond**

Peak Elev=163.40' Storage=0.032 af Inflow=0.34 cfs 5,185 cf

Outflow=0.16 cfs 5,080 cf

Total Runoff Area = 41,769 sf Runoff Volume = 8,602 cf Average Runoff Depth = 2.47"**68.12% Pervious = 28,453 sf 31.88% Impervious = 13,316 sf**

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Type IA 24-hr 25 YEAR Rainfall=4.00"

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Summary for Subcatchment 1S: PRE DEVELOPED

Runoff = 0.19 cfs @ 8.00 hrs, Volume= 3,417 cf, Depth= 1.96"

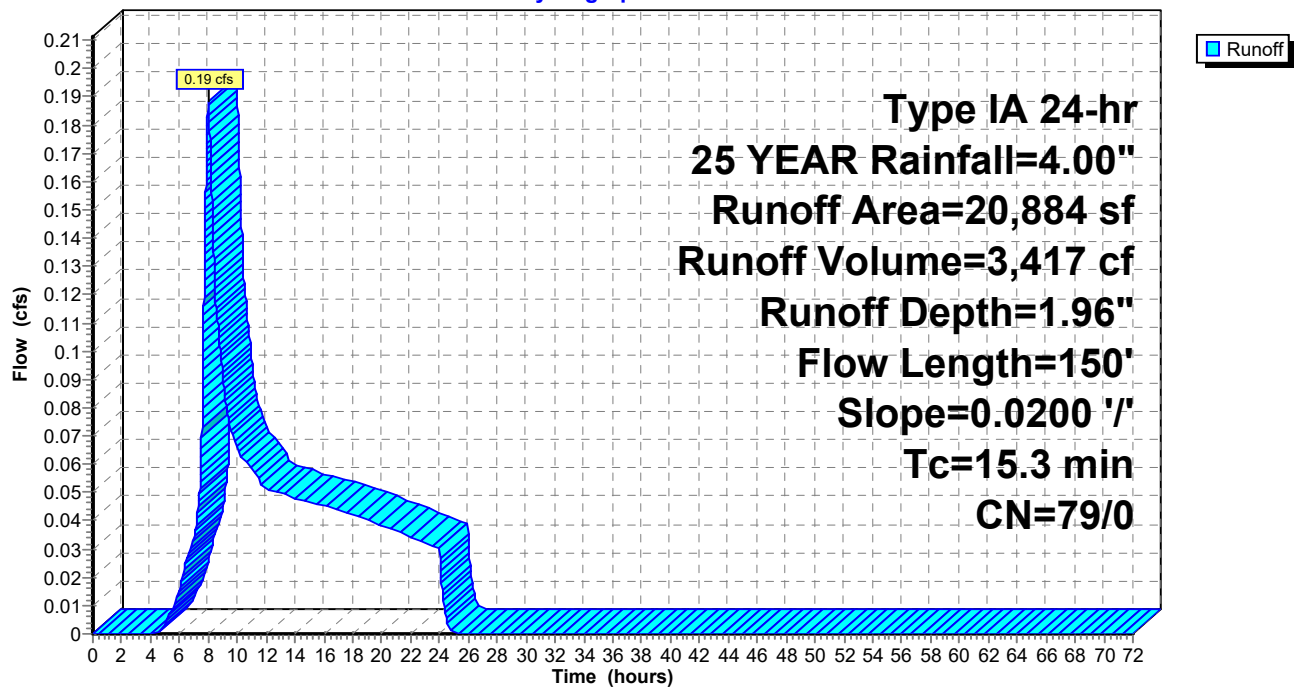
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 25 YEAR Rainfall=4.00"

Area (sf)	CN	Description
20,884	79	50-75% Grass cover, Fair, HSG C
20,884		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	150	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.50"

Subcatchment 1S: PRE DEVELOPED

Hydrograph



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Type IA 24-hr 25 YEAR Rainfall=4.00"

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Summary for Subcatchment 27S: POST IMP

Runoff = 0.29 cfs @ 7.88 hrs, Volume= 4,178 cf, Depth= 3.77"

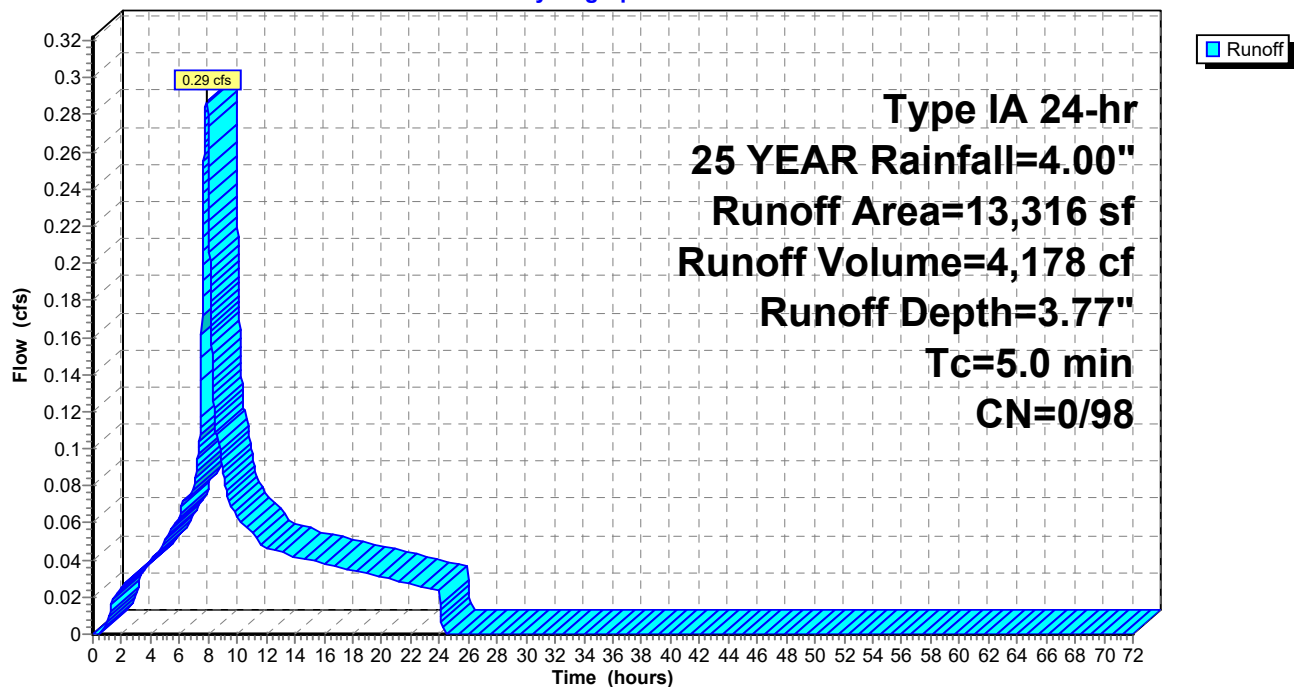
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 25 YEAR Rainfall=4.00"

	Area (sf)	CN	Description
*	13,316	98	
	13,316		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 27S: POST IMP

Hydrograph



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Type IA 24-hr 25 YEAR Rainfall=4.00"

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Summary for Subcatchment 30S: POST PERVIOUS

Runoff = 0.06 cfs @ 8.00 hrs, Volume= 1,007 cf, Depth= 1.60"

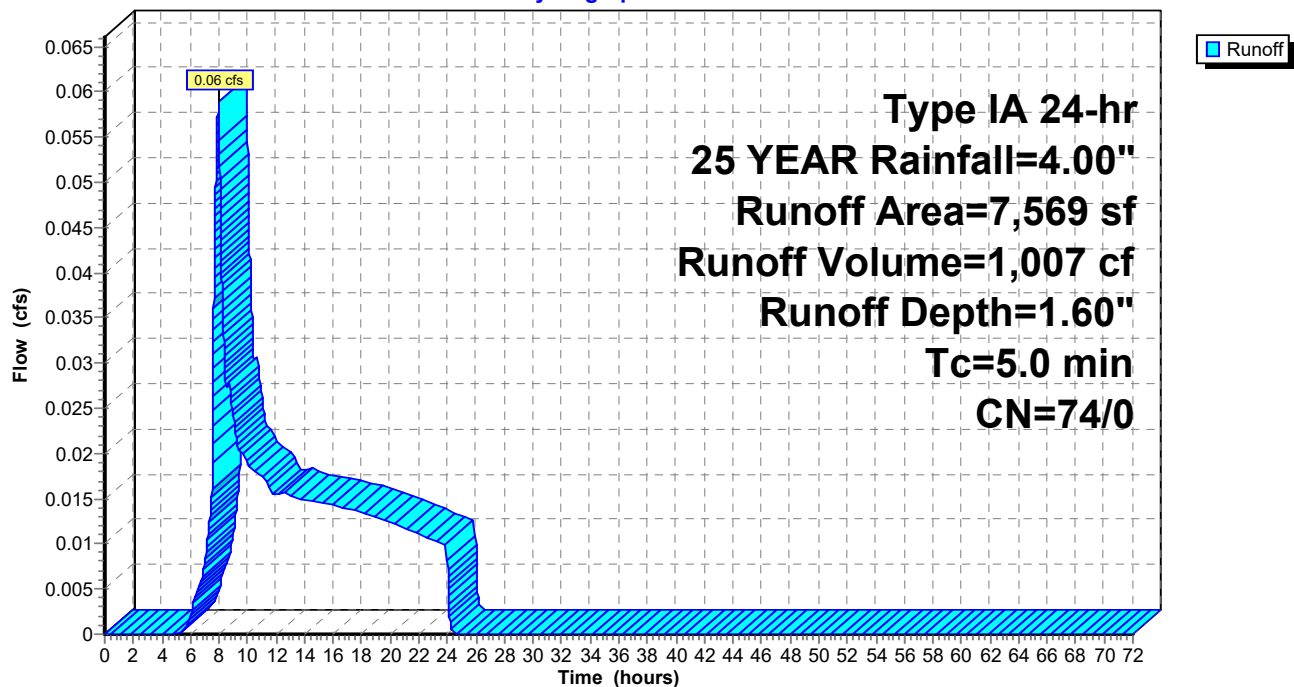
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 25 YEAR Rainfall=4.00"

Area (sf)	CN	Description
7,569	74	>75% Grass cover, Good, HSG C
7,569		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 30S: POST PERVIOUS

Hydrograph



6523 20180419 Stormwater Model

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Type IA 24-hr 25 YEAR Rainfall=4.00"

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Summary for Reach 28R: vegetated swale

Inflow Area = 13,316 sf, 100.00% Impervious, Inflow Depth = 3.77" for 25 YEAR event
Inflow = 0.29 cfs @ 7.88 hrs, Volume= 4,178 cf
Outflow = 0.28 cfs @ 7.95 hrs, Volume= 4,178 cf, Atten= 1%, Lag= 4.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs

Max. Velocity= 0.19 fps, Min. Travel Time= 5.8 min

Avg. Velocity= 0.09 fps, Avg. Travel Time= 12.1 min

Peak Storage= 99 cf @ 7.95 hrs

Average Depth at Peak Storage= 0.42'

Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 1.82 cfs

2.00' x 1.00' deep channel, n= 0.240

Side Slope Z-value= 4.0 '/' Top Width= 10.00'

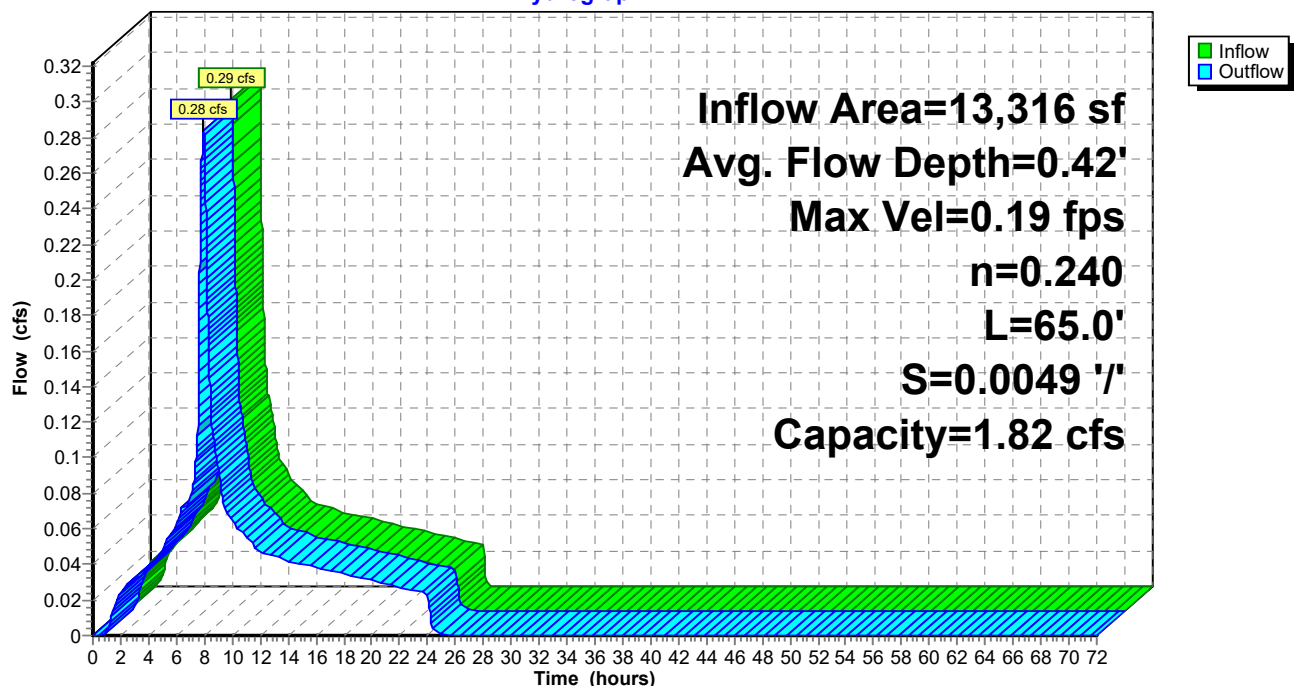
Length= 65.0' Slope= 0.0049 '/'

Inlet Invert= 164.43', Outlet Invert= 164.11'



Reach 28R: vegetated swale

Hydrograph



6523 20180419 Stormwater Model

Type IA 24-hr 25 YEAR Rainfall=4.00"

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Summary for Pond 29P: Detention Pond

Inflow Area = 20,885 sf, 63.76% Impervious, Inflow Depth = 2.98" for 25 YEAR event
 Inflow = 0.34 cfs @ 7.96 hrs, Volume= 5,185 cf
 Outflow = 0.16 cfs @ 8.45 hrs, Volume= 5,080 cf, Atten= 54%, Lag= 28.9 min
 Primary = 0.16 cfs @ 8.45 hrs, Volume= 5,080 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
 Peak Elev= 163.40' @ 8.45 hrs Surf.Area= 0.029 ac Storage= 0.032 af

Plug-Flow detention time= 407.8 min calculated for 5,080 cf (98% of inflow)
 Center-of-Mass det. time= 392.7 min (1,093.7 - 701.0)

Volume	Invert	Avail.Storage	Storage Description
#1	162.00'	0.052 af	30.00'W x 25.00'L x 2.00'H Prismatic Z=3.0

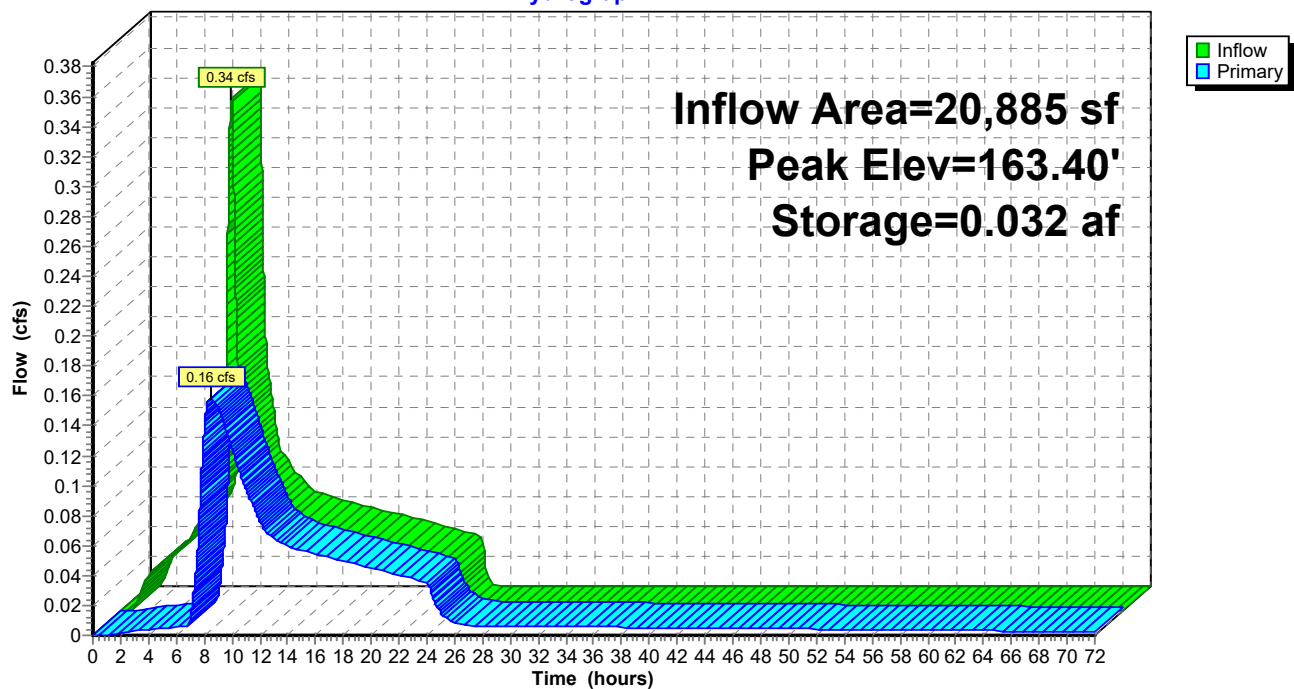
Device	Routing	Invert	Outlet Devices
#1	Primary	162.00'	6.0" Round Culvert L= 1.0' Ke= 0.500 Inlet / Outlet Invert= 162.00' / 161.99' S= 0.0100 ' / Cc= 0.900 n= 0.013, Flow Area= 0.20 sf
#2	Device 1	162.00'	0.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	162.87'	3.0" Vert. Orifice/Grate C= 0.600
#4	Device 1	163.50'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 8.45 hrs HW=163.40' (Free Discharge)

- 1=Culvert (Passes 0.16 cfs of 1.01 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.01 cfs @ 5.66 fps)
- 3=Orifice/Grate (Orifice Controls 0.15 cfs @ 3.07 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Pond 29P: Detention Pond

Hydrograph



6523 20180419 Stormwater Model*Type IA 24-hr 100 YEAR Rainfall=4.50"*

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Time span=0.00-72.00 hrs, dt=0.010 hrs, 7201 points

Runoff by SBUH method, Split Pervious/Imperv.

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: PRE DEVELOPED

Runoff Area=20,884 sf 0.00% Impervious Runoff Depth=2.38"

Flow Length=150' Slope=0.0200 '/' Tc=15.3 min CN=79/0 Runoff=0.24 cfs 4,136 cf

Subcatchment27S: POST IMP

Runoff Area=13,316 sf 100.00% Impervious Runoff Depth=4.26"

Tc=5.0 min CN=0/98 Runoff=0.32 cfs 4,732 cf

Subcatchment30S: POST PERVIOUS

Runoff Area=7,569 sf 0.00% Impervious Runoff Depth=1.97"

Tc=5.0 min CN=74/0 Runoff=0.08 cfs 1,244 cf

Reach 28R: vegetated swale

Avg. Flow Depth=0.44' Max Vel=0.19 fps Inflow=0.32 cfs 4,732 cf

n=0.240 L=65.0' S=0.0049 '/' Capacity=1.82 cfs Outflow=0.32 cfs 4,732 cf

Pond 29P: Detention Pond

Peak Elev=163.51' Storage=0.036 af Inflow=0.40 cfs 5,976 cf

Outflow=0.18 cfs 5,870 cf

Total Runoff Area = 41,769 sf Runoff Volume = 10,112 cf Average Runoff Depth = 2.90"**68.12% Pervious = 28,453 sf 31.88% Impervious = 13,316 sf**

6523 20180419 Stormwater Model

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Type IA 24-hr 100 YEAR Rainfall=4.50"

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Summary for Subcatchment 1S: PRE DEVELOPED

Runoff = 0.24 cfs @ 8.00 hrs, Volume= 4,136 cf, Depth= 2.38"

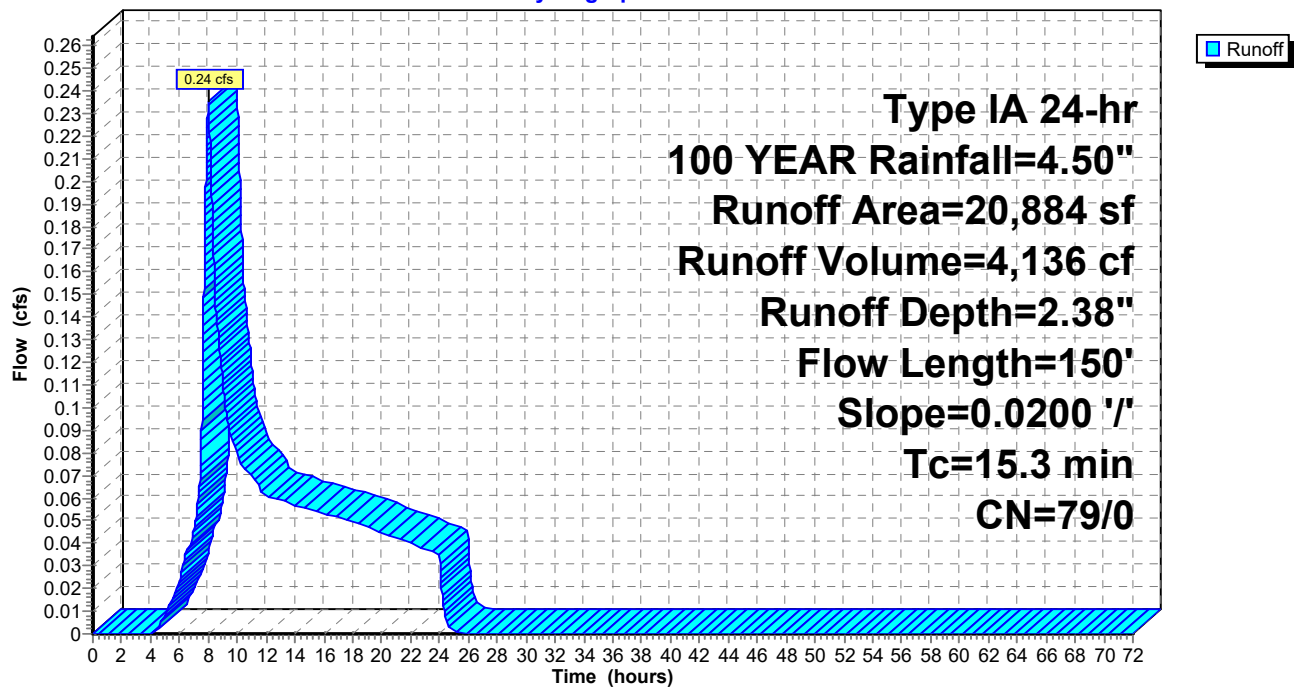
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 100 YEAR Rainfall=4.50"

Area (sf)	CN	Description
20,884	79	50-75% Grass cover, Fair, HSG C
20,884		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	150	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.50"

Subcatchment 1S: PRE DEVELOPED

Hydrograph



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Type IA 24-hr 100 YEAR Rainfall=4.50"

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Summary for Subcatchment 27S: POST IMP

Runoff = 0.32 cfs @ 7.88 hrs, Volume= 4,732 cf, Depth= 4.26"

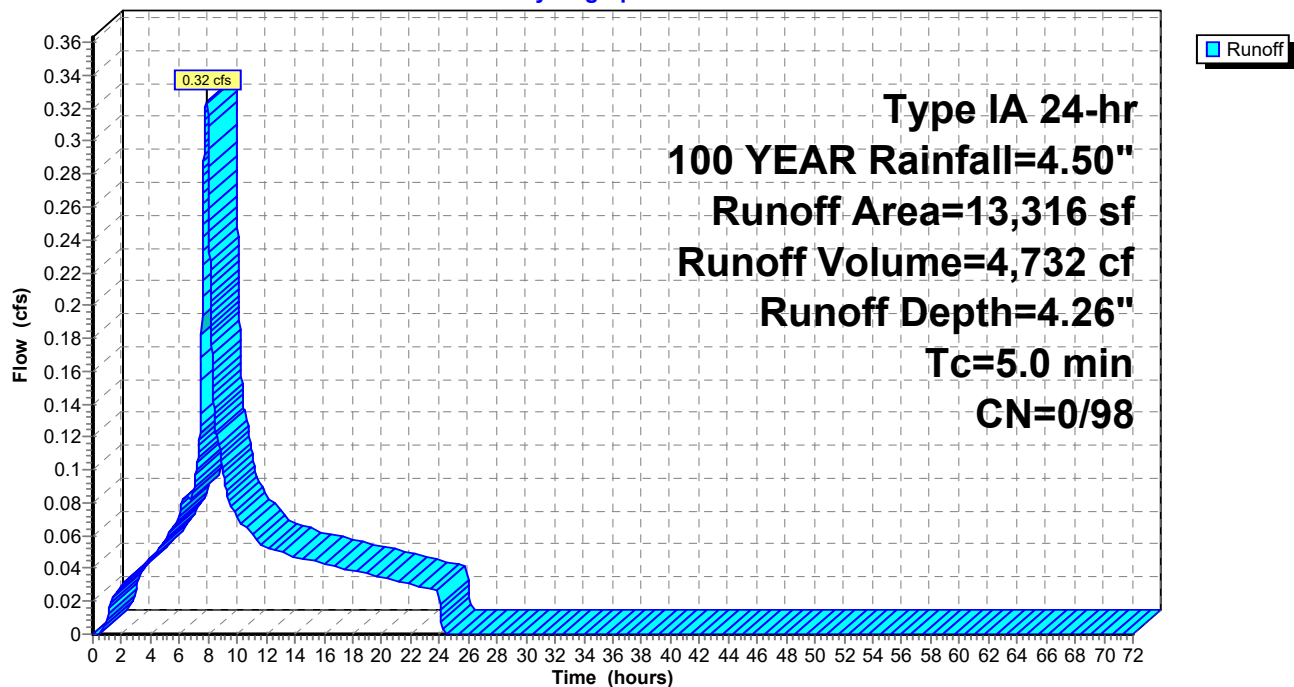
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 100 YEAR Rainfall=4.50"

	Area (sf)	CN	Description
*	13,316	98	
	13,316		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 27S: POST IMP

Hydrograph



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Type IA 24-hr 100 YEAR Rainfall=4.50"

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Summary for Subcatchment 30S: POST PERVIOUS

Runoff = 0.08 cfs @ 7.99 hrs, Volume= 1,244 cf, Depth= 1.97"

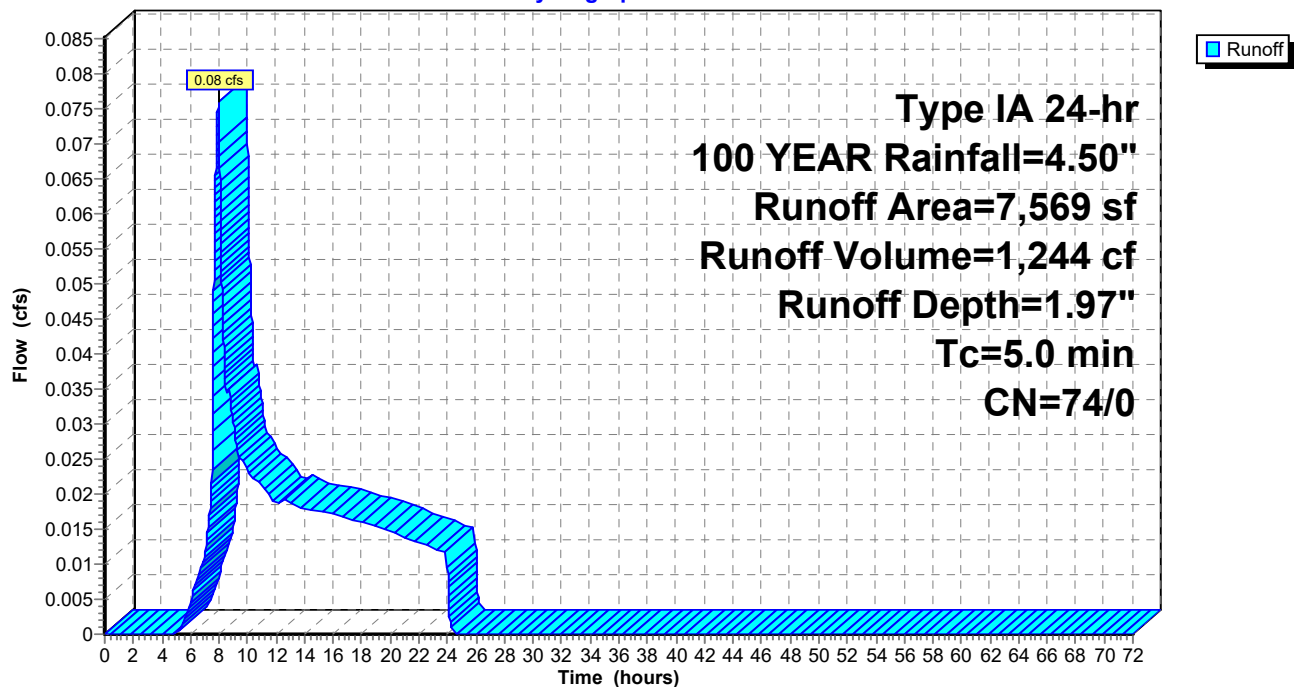
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr 100 YEAR Rainfall=4.50"

Area (sf)	CN	Description
7,569	74	>75% Grass cover, Good, HSG C
7,569		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 30S: POST PERVIOUS

Hydrograph



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Type IA 24-hr 100 YEAR Rainfall=4.50"

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Summary for Reach 28R: vegetated swale

Inflow Area = 13,316 sf, 100.00% Impervious, Inflow Depth = 4.26" for 100 YEAR event
Inflow = 0.32 cfs @ 7.88 hrs, Volume= 4,732 cf
Outflow = 0.32 cfs @ 7.95 hrs, Volume= 4,732 cf, Atten= 1%, Lag= 4.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs

Max. Velocity= 0.19 fps, Min. Travel Time= 5.6 min

Avg. Velocity= 0.09 fps, Avg. Travel Time= 11.7 min

Peak Storage= 108 cf @ 7.95 hrs

Average Depth at Peak Storage= 0.44'

Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 1.82 cfs

2.00' x 1.00' deep channel, n= 0.240

Side Slope Z-value= 4.0 '/' Top Width= 10.00'

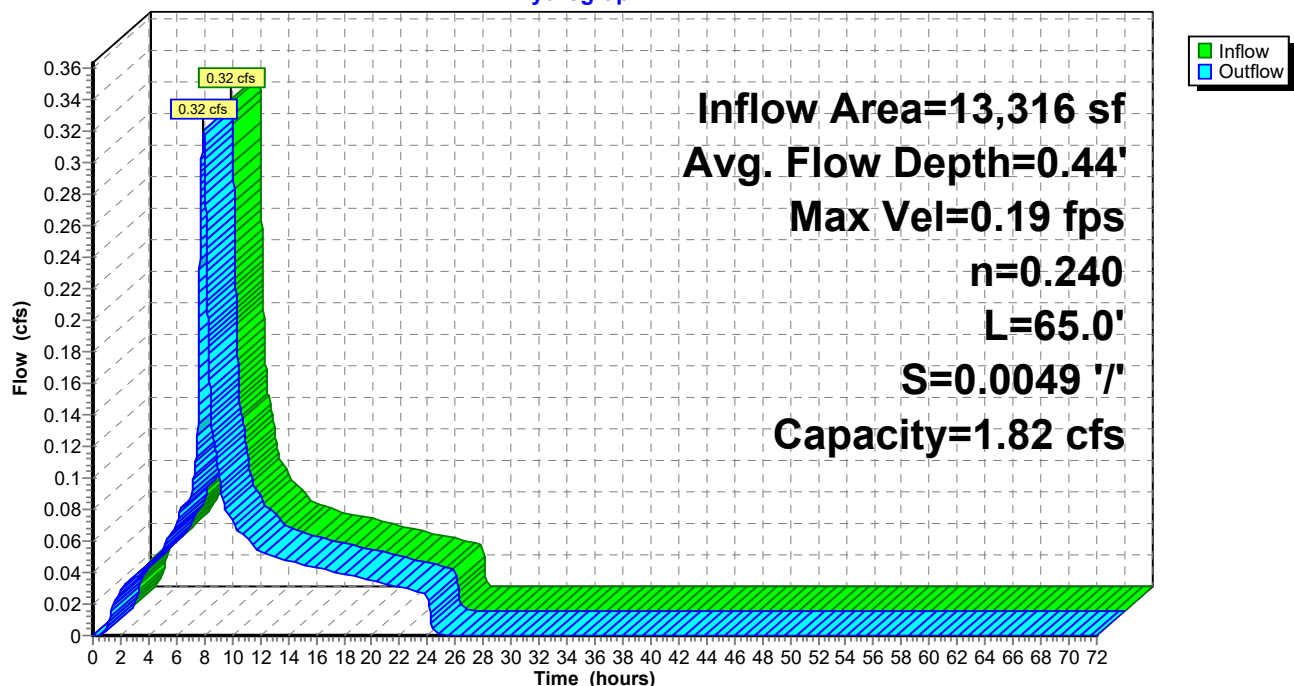
Length= 65.0' Slope= 0.0049 '/'

Inlet Invert= 164.43', Outlet Invert= 164.11'



Reach 28R: vegetated swale

Hydrograph



6523 20180419 Stormwater Model

Type IA 24-hr 100 YEAR Rainfall=4.50"

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Summary for Pond 29P: Detention Pond

Inflow Area = 20,885 sf, 63.76% Impervious, Inflow Depth = 3.43" for 100 YEAR event
 Inflow = 0.40 cfs @ 7.96 hrs, Volume= 5,976 cf
 Outflow = 0.18 cfs @ 8.44 hrs, Volume= 5,870 cf, Atten= 54%, Lag= 29.1 min
 Primary = 0.18 cfs @ 8.44 hrs, Volume= 5,870 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
 Peak Elev= 163.51' @ 8.44 hrs Surf.Area= 0.031 ac Storage= 0.036 af

Plug-Flow detention time= 364.6 min calculated for 5,870 cf (98% of inflow)
 Center-of-Mass det. time= 351.3 min (1,049.5 - 698.1)

Volume	Invert	Avail.Storage	Storage Description
#1	162.00'	0.052 af	30.00'W x 25.00'L x 2.00'H Prismatic Z=3.0

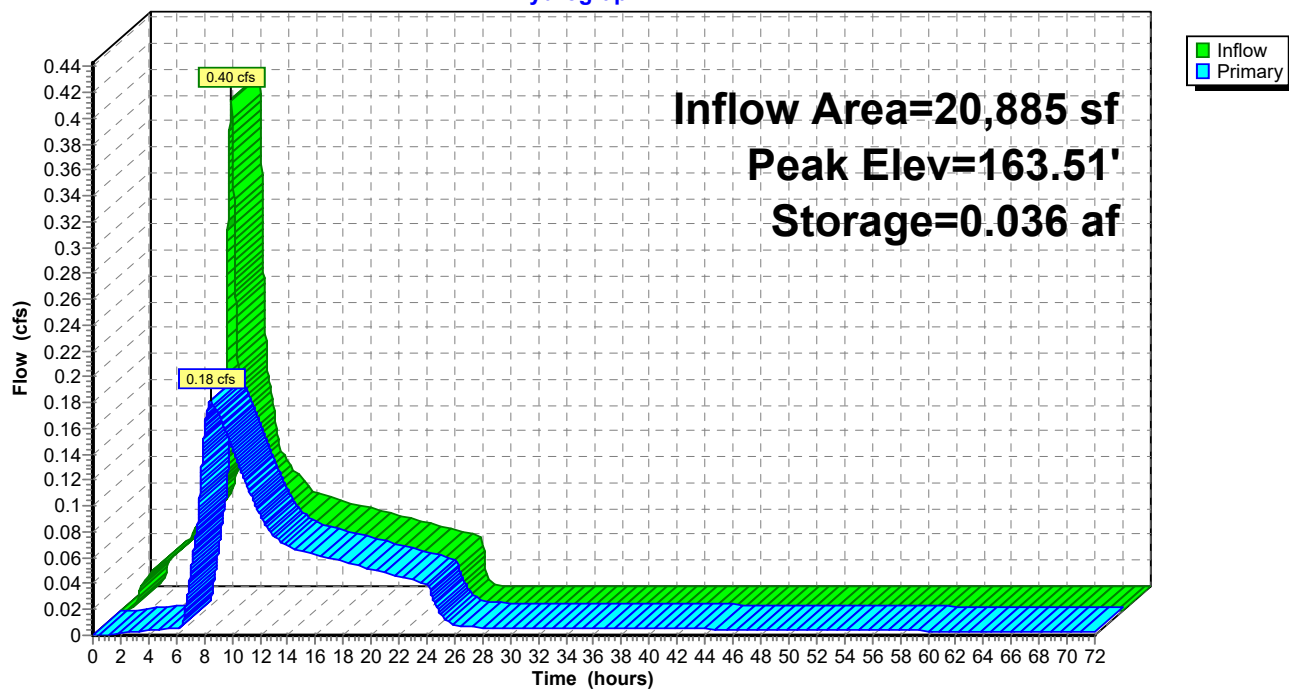
Device	Routing	Invert	Outlet Devices
#1	Primary	162.00'	6.0" Round Culvert L= 1.0' Ke= 0.500 Inlet / Outlet Invert= 162.00' / 161.99' S= 0.0100 ' / Cc= 0.900 n= 0.013, Flow Area= 0.20 sf
#2	Device 1	162.00'	0.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	162.87'	3.0" Vert. Orifice/Grate C= 0.600
#4	Device 1	163.50'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 8.44 hrs HW=163.51' (Free Discharge)

- 1=Culvert (Passes 0.18 cfs of 1.06 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.01 cfs @ 5.87 fps)
- 3=Orifice/Grate (Orifice Controls 0.17 cfs @ 3.45 fps)
- 4=Orifice/Grate (Weir Controls 0.00 cfs @ 0.32 fps)

Pond 29P: Detention Pond

Hydrograph



6523 20180419 Stormwater Model*Type IA 24-hr WQ Rainfall=1.00"*

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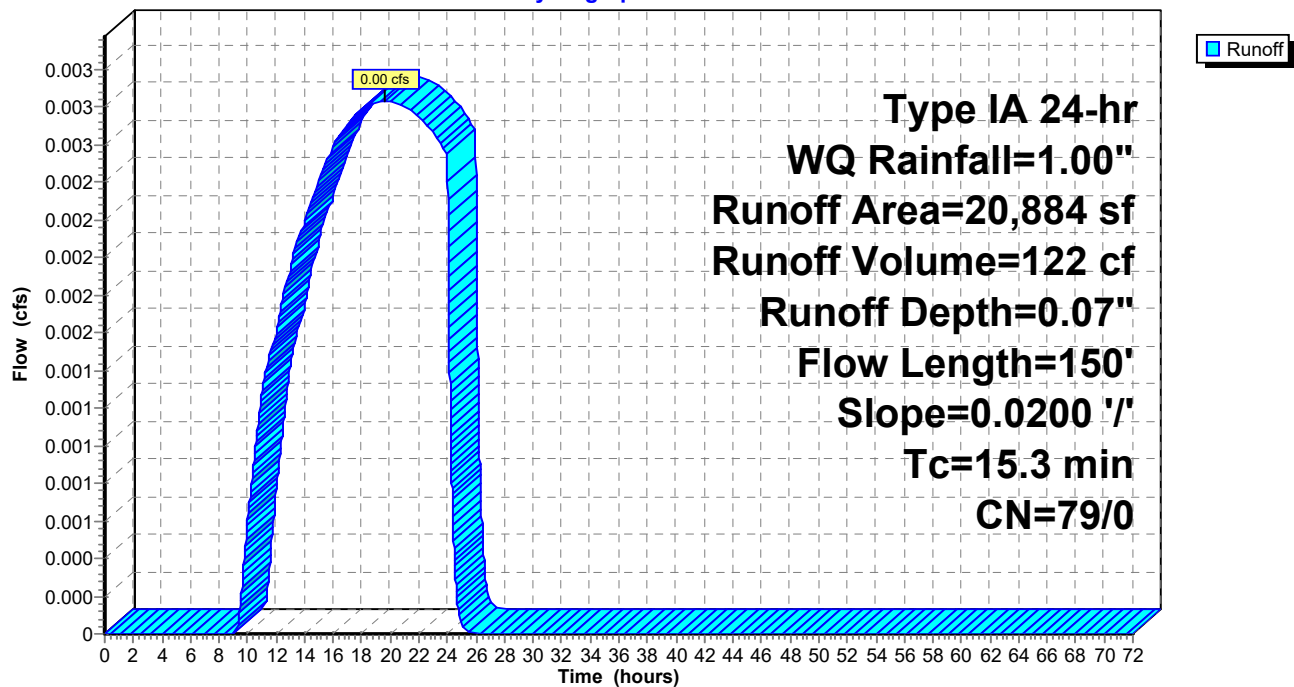
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Time span=0.00-72.00 hrs, dt=0.010 hrs, 7201 points

Runoff by SBUH method, Split Pervious/Imperv.

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: PRE DEVELOPEDRunoff Area=20,884 sf 0.00% Impervious Runoff Depth=0.07"
Flow Length=150' Slope=0.0200 '/' Tc=15.3 min CN=79/0 Runoff=0.00 cfs 122 cf**Subcatchment27S: POST IMP**Runoff Area=13,316 sf 100.00% Impervious Runoff Depth=0.79"
Tc=5.0 min CN=0/98 Runoff=0.06 cfs 878 cf**Subcatchment30S: POST PERVIOUS**Runoff Area=7,569 sf 0.00% Impervious Runoff Depth=0.02"
Tc=5.0 min CN=74/0 Runoff=0.00 cfs 15 cf**Reach 28R: vegetated swale**Avg. Flow Depth=0.19' Max Vel=0.12 fps Inflow=0.06 cfs 878 cf
n=0.240 L=65.0' S=0.0049 '/' Capacity=1.82 cfs Outflow=0.06 cfs 878 cf**Pond 29P: Detention Pond**Peak Elev=162.67' Storage=0.013 af Inflow=0.06 cfs 892 cf
Outflow=0.01 cfs 861 cf**Total Runoff Area = 41,769 sf Runoff Volume = 1,014 cf Average Runoff Depth = 0.29"**
68.12% Pervious = 28,453 sf 31.88% Impervious = 13,316 sf



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Type IA 24-hr WQ Rainfall=1.00"

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Summary for Subcatchment 27S: POST IMP

Runoff = 0.06 cfs @ 7.90 hrs, Volume= 878 cf, Depth= 0.79"

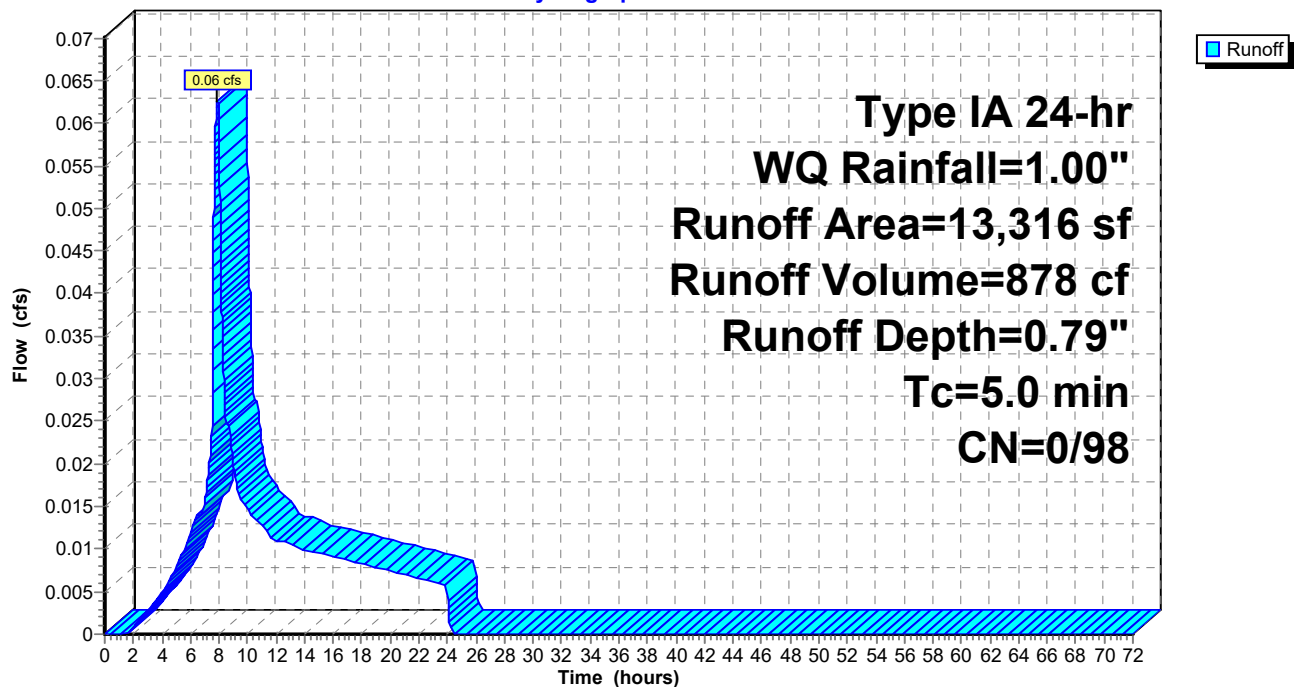
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	13,316	98	
	13,316		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 27S: POST IMP

Hydrograph



Summary for Subcatchment 30S: POST PERVIOUS

Runoff = 0.00 cfs @ 22.50 hrs, Volume= 15 cf, Depth= 0.02"

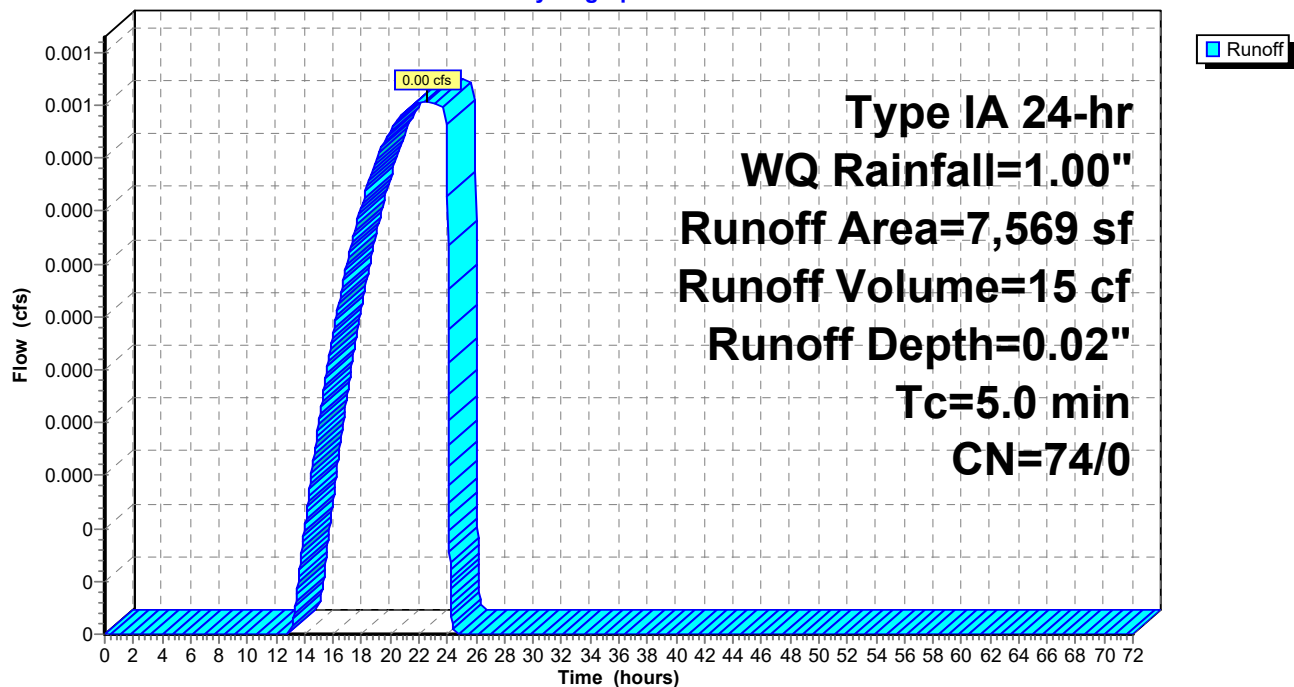
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
Type IA 24-hr WQ Rainfall=1.00"

Area (sf)	CN	Description
7,569	74	>75% Grass cover, Good, HSG C
7,569		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, POST DEVELOPED

Subcatchment 30S: POST PERVIOUS

Hydrograph



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Type IA 24-hr WQ Rainfall=1.00"

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Summary for Reach 28R: vegetated swale

Inflow Area = 13,316 sf, 100.00% Impervious, Inflow Depth = 0.79" for WQ event
Inflow = 0.06 cfs @ 7.90 hrs, Volume= 878 cf
Outflow = 0.06 cfs @ 8.00 hrs, Volume= 878 cf, Atten= 3%, Lag= 6.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs

Max. Velocity= 0.12 fps, Min. Travel Time= 9.1 min

Avg. Velocity = 0.06 fps, Avg. Travel Time= 19.5 min

Peak Storage= 33 cf @ 8.00 hrs

Average Depth at Peak Storage= 0.19'

Bank-Full Depth= 1.00' Flow Area= 6.0 sf, Capacity= 1.82 cfs

2.00' x 1.00' deep channel, n= 0.240

Side Slope Z-value= 4.0 '/' Top Width= 10.00'

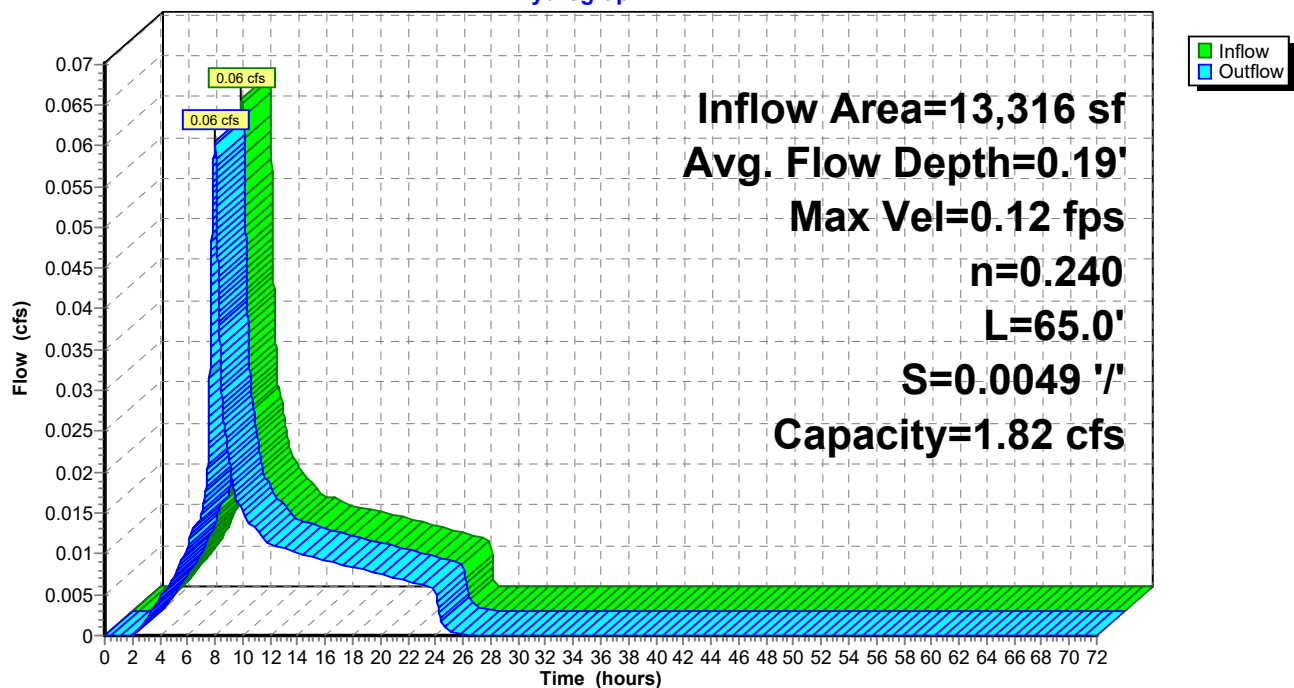
Length= 65.0' Slope= 0.0049 '/'

Inlet Invert= 164.43', Outlet Invert= 164.11'



Reach 28R: vegetated swale

Hydrograph



6523 20180419 Stormwater Model

Type IA 24-hr WQ Rainfall=1.00"

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Summary for Pond 29P: Detention Pond

Inflow Area = 20,885 sf, 63.76% Impervious, Inflow Depth = 0.51" for WQ event
 Inflow = 0.06 cfs @ 8.00 hrs, Volume= 892 cf
 Outflow = 0.01 cfs @ 24.08 hrs, Volume= 861 cf, Atten= 91%, Lag= 964.7 min
 Primary = 0.01 cfs @ 24.08 hrs, Volume= 861 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
 Peak Elev= 162.67' @ 24.08 hrs Surf.Area= 0.023 ac Storage= 0.013 af

Plug-Flow detention time= 1,279.2 min calculated for 861 cf (96% of inflow)
 Center-of-Mass det. time= 1,253.8 min (1,989.2 - 735.4)

Volume	Invert	Avail.Storage	Storage Description
#1	162.00'	0.052 af	30.00'W x 25.00'L x 2.00'H Prismatic Z=3.0

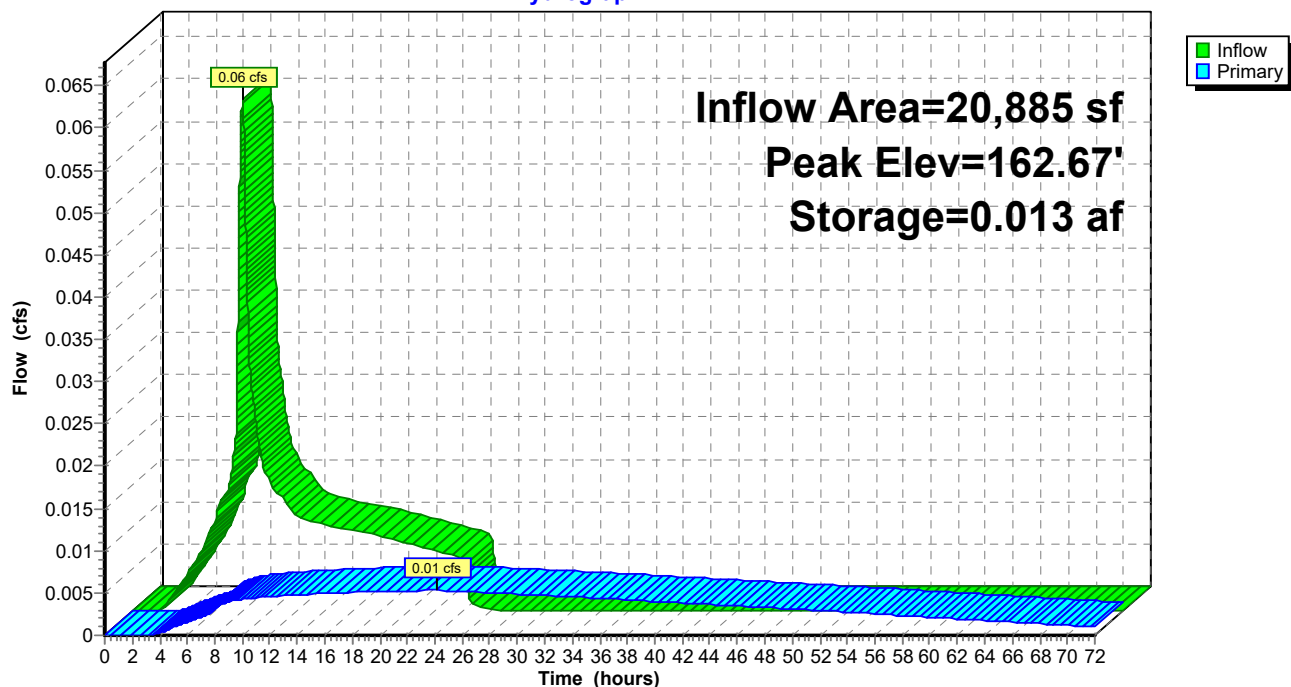
Device	Routing	Invert	Outlet Devices
#1	Primary	162.00'	6.0" Round Culvert L= 1.0' Ke= 0.500 Inlet / Outlet Invert= 162.00' / 161.99' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf
#2	Device 1	162.00'	0.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	162.87'	3.0" Vert. Orifice/Grate C= 0.600
#4	Device 1	163.50'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 24.08 hrs HW=162.67' (Free Discharge)

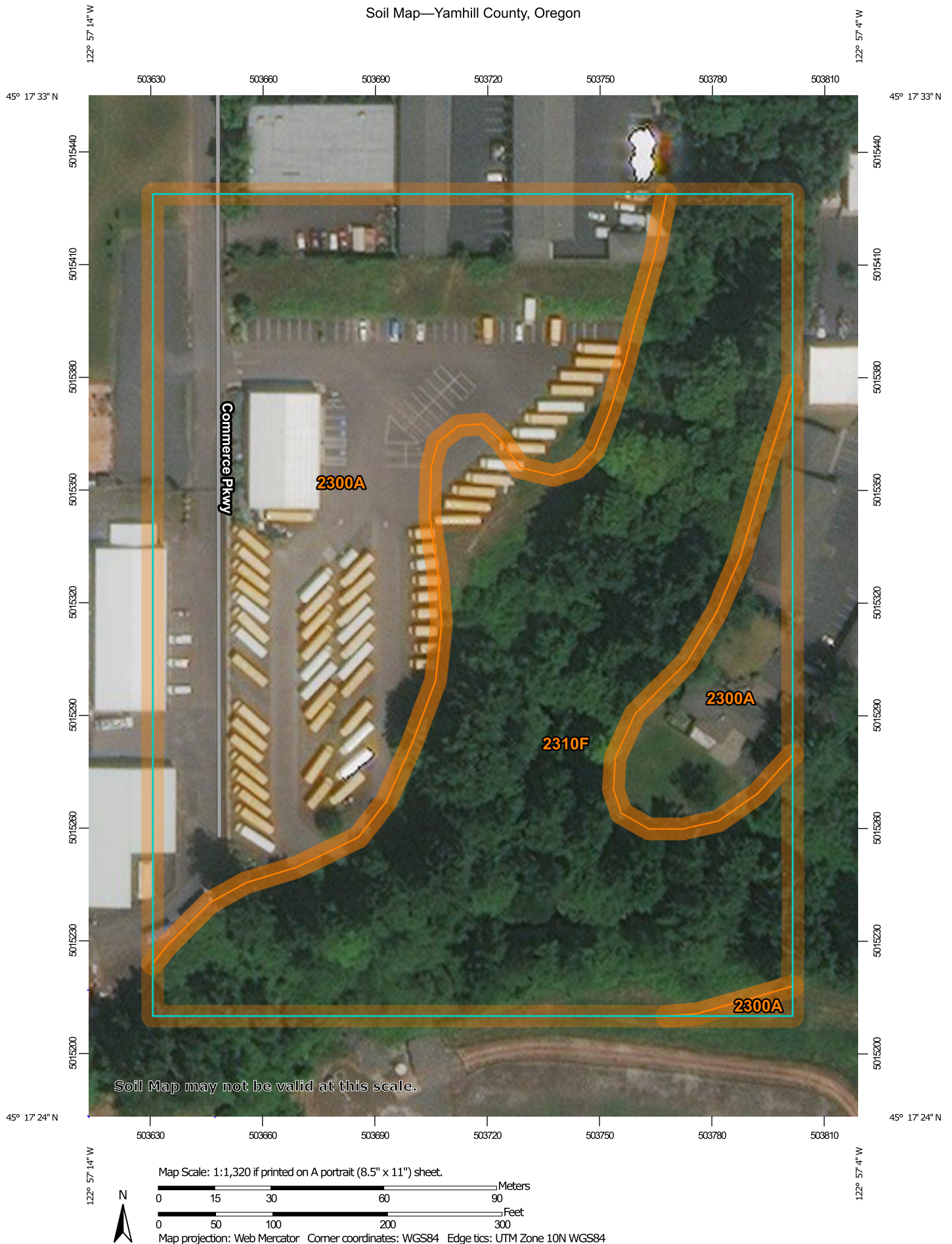
↑ **1=Culvert** (Passes 0.01 cfs of 0.54 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.01 cfs @ 3.89 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)
 ↑ **4=Orifice/Grate** (Controls 0.00 cfs)

Pond 29P: Detention Pond

Hydrograph




Soil Map—Yamhill County, Oregon




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yamhill County, Oregon

Survey Area Data: Version 6, Sep 18, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2015—Sep 13, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2300A	Aloha silt loam, 0 to 3 percent slopes	4.9	52.5%
2310F	Woodburn silt loam, 20 to 55 percent slopes	4.4	47.5%
Totals for Area of Interest		9.3	100.0%

Table 2-2a Runoff curve numbers for urban areas ^{1/}

Cover description		Curve numbers for hydrologic soil group			
Cover type and hydrologic condition	Average percent impervious area ^{2/}	A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) ^{3/} :					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ^{4/}		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas					
(pervious areas only, no vegetation) ^{5/}		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

¹ Average runoff condition, and $I_a = 0.2S$.² The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.³ CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.⁴ Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.⁵ Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Table 2-2b Runoff curve numbers for cultivated agricultural lands ^{1/}

Cover description			Curve numbers for hydrologic soil group			
Cover type	Treatment ^{2/}	Hydrologic condition ^{3/}	A	B	C	D
Fallow	Bare soil	—	77	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C&T)	Poor	66	74	80	82
		Good	62	71	78	81
	C&T+ CR	Poor	65	73	79	81
		Good	61	70	77	80
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C&T	Poor	61	72	79	82
		Good	59	70	78	81
	C&T+ CR	Poor	60	71	78	81
		Good	58	69	77	80
Close-seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C&T	Poor	63	73	80	83
		Good	51	67	76	80

¹ Average runoff condition, and $I_a=0.2S$ ² Crop residue cover applies only if residue is on at least 5% of the surface throughout the year.³ Hydraulic condition is based on combination factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes, (d) percent of residue cover on the land surface (good $\geq 20\%$), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.

Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

STANDARD O&M PLAN FOR THE SIMPLIFIED AND PRESUMPTIVE APPROACHES

3.1.1.6. Swales

Structural components must be operated and maintained in accordance with the design specifications.		
	MAINTENANCE INDICATOR	CORRECTIVE ACTION
	Clogged inlets or outlets	Remove sediment and debris from catch basins, trench drains, curb inlets, and pipes; maintain at least 50% conveyance at all times.
	Broken inlets or outlets	Repair or replace broken downspouts, curb cuts, standpipes, and screens as needed.
	Cracked or exposed drain pipes	Repair or seal cracks. Replace when repair is insufficient. Cover with 6 inches of growing medium to prevent freeze/thaw and UV damage.
	Check dams missing or with gaps	Maintain or replace check dams as per design specifications.
	Perforated liner	Repair or replace as necessary.
Vegetation must cover at least 90% of the facility at maturity.		
	MAINTENANCE INDICATOR	CORRECTIVE ACTION
	Dead or stressed vegetation	Replant per planting plan or substitute from the plant list in Section 2.4.1 .
	Dry grass or other plants	Irrigate and mulch. Maintain grass height at 6"-9".
	Tall grass and vegetation	Prune to allow sight lines and foot traffic. Prune to ensure inlets and outlets freely convey stormwater into and/or out of facility.
	Weeds	Manually remove weeds.
Growing medium must sustain healthy plant cover and infiltrate within 48 hours.		
	MAINTENANCE INDICATOR	CORRECTIVE ACTION
	Erosion and sediment accumulation	Fill in and lightly compact areas of erosion with City-approved soil mix (see Section 2.3.6); replant according to planting plan or substitute from the plant list in Section 2.4.1 . Erosion deeper than 2 inches must be addressed. Sediment more than 4 inches deep must be removed.
	Scouring at the inlet(s)	Ensure splash blocks or inlet gravel/rock are adequate.
	Slope slippage	Stabilize 3:1 slopes/banks with plantings from the original planting plan or from the plant list in Section 2.4.1 .
	Ponding	Rake, till, or amend soil surface with City-approved soil mix to restore infiltration rate.

Annual Maintenance Schedule

Summer	Make structural repairs; clean gutters and downspouts; remove any build-up of weeds or organic debris.
Fall	Replant exposed soil and replace dead plants. Remove sediment and plant debris.
Winter	Clear gutters and downspouts.
Spring	Remove sediment and plant debris. Replant exposed soil and replace dead plants.
All seasons	Weed as necessary.

Maintenance Records: All facility operators are required to keep an inspection and maintenance log. Record date, description, and contractor (if applicable) for all repairs, landscape maintenance, and facility cleanout activities. Keep work orders and invoices on file and make available upon request of the City inspector.

Fertilizers/Pesticides/Herbicides. Their use is strongly discouraged because of the potential for damage to downstream systems. If pesticides or herbicides are required, use the services of a licensed applicator and products approved for aquatic use.

Access: Maintain ingress/egress per design standards.

Infiltration/Flow Control: All facilities must drain within 48 hours. Record time/date, weather, and site conditions when ponding occurs.

Pollution Prevention: All sites must implement Best Management Practices to prevent contamination of stormwater. Call 503-823-7180 to report spills. Never wash spills into a stormwater facility. If contamination occurs, document the circumstances and the corrective action taken; include the time/date, weather, and site conditions.

Vectors (Mosquitoes and Rats): Stormwater facilities must not harbor mosquito larvae or rodents that pose a threat to public health or that undermine the facility structure. Record the time/date, weather, and site conditions when vector activity observed. Record when vector abatement started and ended.

STANDARD O&M PLAN FOR THE SIMPLIFIED AND PRESUMPTIVE APPROACHES

3.1.1.9. Basins

Structural components must be operated and maintained in accordance with the design specifications.		
	MAINTENANCE INDICATOR	CORRECTIVE ACTION
	Clogged inlets or outlets	Remove sediment, debris, and blockages from catch basins, trench drains, curb inlets, and pipes to maintain at least 50% conveyance at all times
	Broken inlets or outlets, including grates	Repair or replace broken downspouts, curb cuts, standpipes, and screens as needed.
	Cracked or exposed drain pipes	Repair or seal cracks. Replace when repair is insufficient. Cover with 6 inches of growing medium to prevent freeze/thaw and UV damage.
	Check dams missing/broken	Maintain or replace rock check dams as per design specifications.
	Perforated liner	Replace or repair liner as needed.
Vegetation must cover at least 90% of the facility at maturity.		
	MAINTENANCE INDICATOR	CORRECTIVE ACTION
	Dead or stressed vegetation	Replant per original planting plan, or substitute from the plant list in Section 2.4.1 . Irrigate and mulch as needed; prune tall, dry grasses and remove clippings.
	Tall grass and vegetation	Maintain grass height at 6"-9". Trim to allow sight lines and foot traffic, also to ensure inlets and outlets freely convey stormwater into and/or out of facility.
	Weeds	Manually remove weeds.
Growing medium must sustain healthy plant cover and infiltrate within 48 hours.		
	MAINTENANCE INDICATOR	CORRECTIVE ACTION
	Gullies, erosion, exposed soil, sediment accumulation	Fill in and lightly compact areas of erosion with City-approved soil mix (see Section 2.3.6) and replant according to planting plan or substitute from the plant list in Section 2.4.1 . Erosion more than 2 inches deep must be addressed. Sediment more than 4 inches deep must be removed.
	Scouring at the inlet(s)	Ensure splash blocks or inlet gravel/rock are adequate.
	Slope slippage	Stabilize 3:1 slopes/banks with plantings from the original planting plan or from the plant list in Section 2.4.1 .
	Ponding	Rake, till, or amend soil surface with City-approved soil mix to restore infiltration rate. Remove sediment at entrance.

Annual Maintenance Schedule

Summer	Make structural repairs; clean gutters and downspouts; remove any build-up of weeds or organic debris.
Fall	Replant exposed soil and replace dead plants. Remove sediment and plant debris.
Winter	Clear gutters and downspouts.
Spring	Remove sediment and plant debris. Replant exposed soil and replace dead plants.
All seasons	Weed as necessary.

Maintenance Records: All facility operators are required to keep an inspection and maintenance log. Record date, description, and contractor (if applicable) for all repairs, landscape maintenance, and facility cleanout activities. Keep work orders and invoices on file and make available upon request of the City inspector.

Fertilizers/Pesticides/Herbicides. Their use is strongly discouraged because of the potential for damage to downstream systems. If pesticides or herbicides are required, use the services of a licensed applicator and products approved for aquatic use.

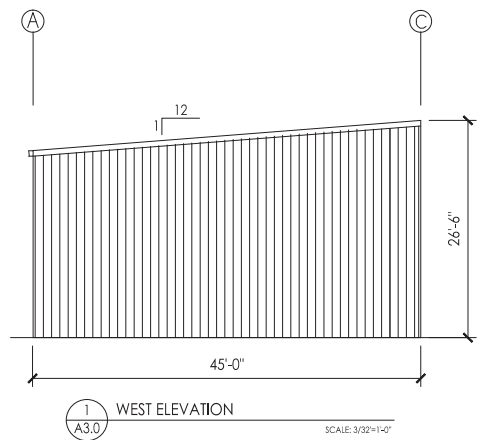
Access: Maintain ingress/egress per design standards.

Infiltration/Flow Control: All facilities must drain within 48 hours. Record time/date, weather, and conditions when ponding occurs.

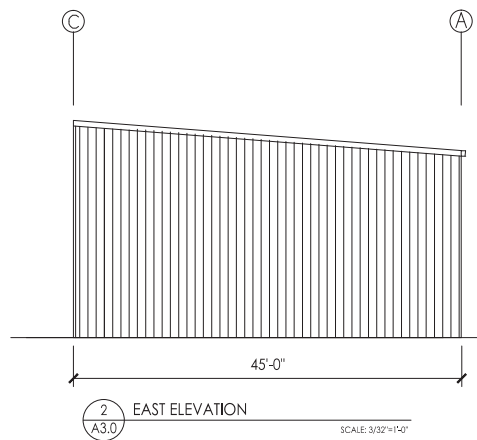
Pollution Prevention: All sites must implement Best Management Practices to prevent contamination of stormwater. Call 503-823-7180 to report spills. Never wash spills into a stormwater facility. If contamination occurs, document the circumstances and the corrective action taken; include the time/date, weather, and site conditions.

Vectors (Mosquitoes and Rats): Facilities must not harbor mosquito larvae or rodents. Record the time/date, weather, and site conditions when vector activity is observed. Record when vector abatement started and ended.

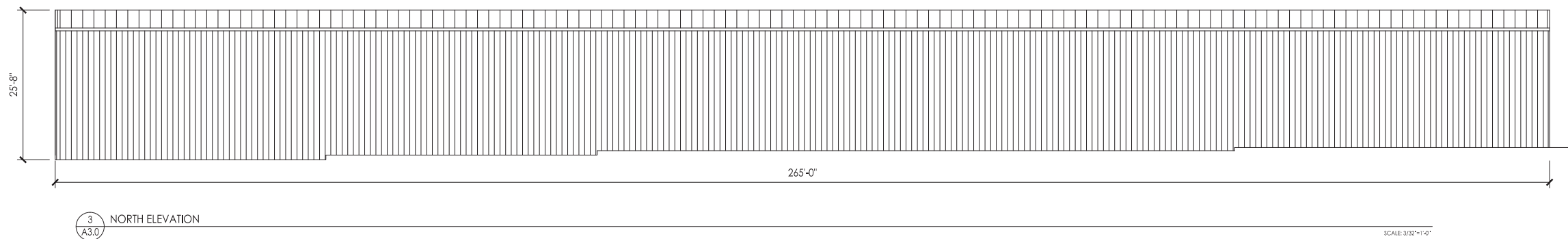
Exhibit E: Architectural Plans and Renderings



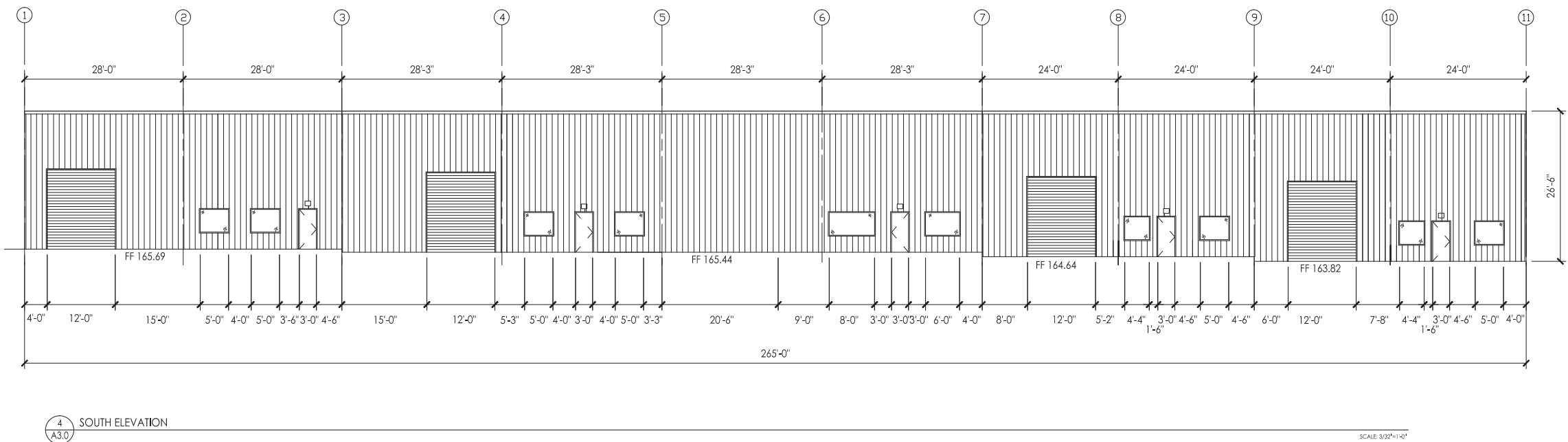
1 WEST ELEVATION
A3.0 SCALE: 3/32"=1'-0"



2 EAST ELEVATION
A3.0 SCALE: 3/32"=1'-0"

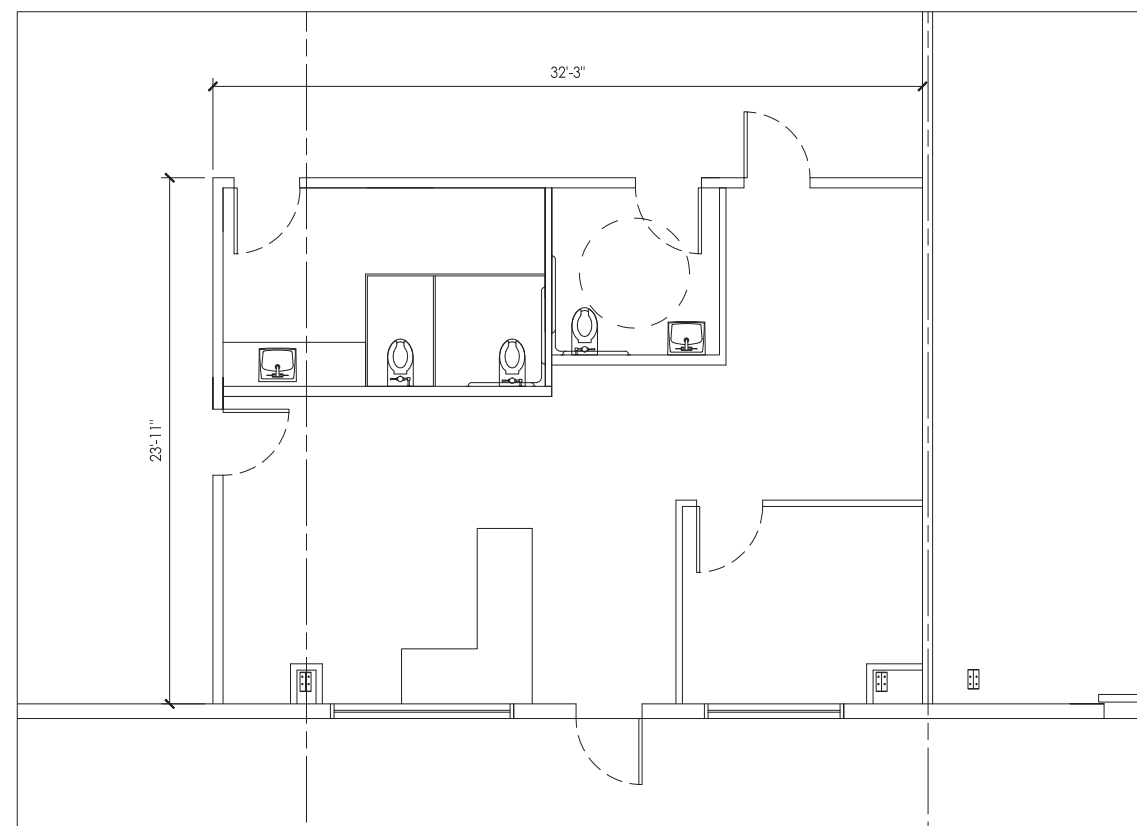
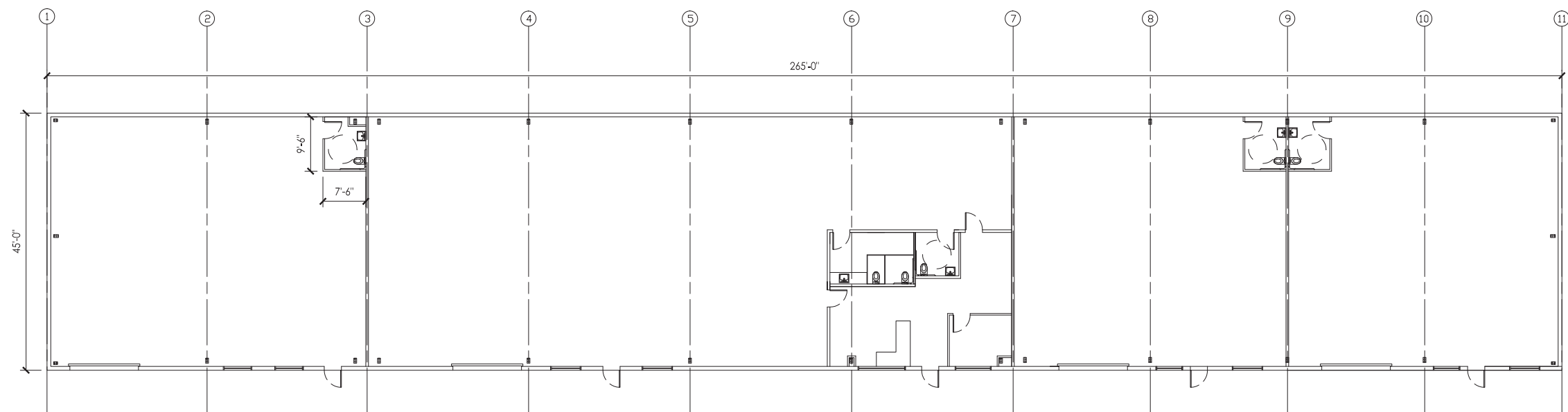


3 NORTH ELEVATION
A3.0 SCALE: 3/32"=1'-0"



4 SOUTH ELEVATION
A3.0 SCALE: 3/32"=1'-0"

REVISIONS	BY
	
	
KM Consulting Services, LLC 14163 SW 118th Ct Tigard, OR 97224 (503) 407-6559	
SHEET CONTENT FOUNDATION DETAILS	
PO BOX 1000 SHERWOOD, OR 97140 PH: 503-692-4675 FAX: 503-692-9292 CCB# 198759	
	
DATE 9/5/18	
DRAWN AKM	
CHECKED AJM/TS	
JOB 1806	
SHEET A3.0	




REVISIONS	BY
 	
<p>KM Consulting Services, LLC 14163 SW 118th Ct Tigard, OR 97224 (503) 407-6559</p>	
<p>SHEET CONTENT FOUNDATION DETAILS</p>	
<p>PO BOX 1000 SHERWOOD, OR 97140 PH: 503-692-4675 FAX: 503-692-9292 CCB# 198759</p>	
<p>TS GRAY CONSTRUCTION</p>	
DATE	9/5/18
DRAWN	AKM
CHECKED	AJM/TS
JOB	1806
SHEET	A3.0





Exhibit F: Preapplication Meeting Notes

City of Newberg

Preapplication meeting notes:

Airpark Business Complex (1050 Commerce Pkwy)

4/4/18

Planning comments:

Zoning and allowed uses:

The site is in the M-2 light industrial zone. See the Use Table in 15.305.020 for allowed uses, which may be further limited by the overlays listed below.

Overlays:

- Airport Overlay (AO) Subdistrict – Airport Transitional Surface (NMC 15.340) – height limits
- Stream Corridor Overlay Subdistrict (NMC 15.342) – limits development
- Bypass Interchange (BI) Overlay (NMC 15.356) – limits uses

Process:

Type II Design Review. It appears no other land use applications are necessary. (Addresses Question #4).

- **Timing:** Typically approved 4-6 weeks after the application is deemed complete. Decision made by the Community Development Director. Two week appeal period. If appealed then it would go to the Planning Commission.
- **Public notice requirements:** Mailed notice to properties within 500 feet, sign posted on site. There are examples in the application packet. The applicant provides draft notice for mailing and posting and is responsible for obtaining mailing labels and mailing/posting notice.

Development standards:

- **Setbacks:** Commerce is considered a service drive (private street). Parking is permitted within the setback. No setbacks required per Development Code. (Addresses Question #3).
- **Lot coverage:** 85% limit.
- **Landscaping:** 15% minimum overall landscaping. Parking lot trees required every seven spaces (either in a parking lot island or in a landscaped strip along the head of the parking spaces). Landscape areas can do double duty as stormwater swales. If a drive aisle or parking area is near a property line then there is a 5 foot landscape buffer requirement. A parking or loading area providing 10 or more spaces shall be improved with defined landscaped areas totaling no less than 25 square feet per parking space. Please show the calculations in the application. See 15.420.010(B) for all landscaping related standards
- **Trash enclosure:** Need a masonry/cement trash enclosure to contain dumpsters. Design and location need to be approved by Waste Management, including if inside the building.
- **Exterior lighting:** light trespass limited to 0.5 foot-candles at the property line. Shielded exterior lights (see code section 15.425). Please provide a lighting plan.
- **Parking:** Vehicle and bike parking required. The number of spaces is based on use and square footage of proposed and existing uses.

- **Design compatibility:** Can be similar to the other industrial buildings in the area. Provide elevations with materials called out. (Addresses Question #2).
- **Traffic study:** Will be required if the trip generation is higher than 40 trips in the PM peak hour (use ITE Trip Generation manual for estimates).
- **Stream Corridor:** Proposed swale is very close or even encroaches into stream corridor. Location of the swale should also avoid corridor during construction and for maintenance. Please provide information on when corridor adjustment was approved and show location of the stream corridor on the plan set.

Additional Comments:

- The proposed development will not trigger upgrades to any existing non-conforming site elements unless modifications to those areas are proposed.
- The site is adjacent to unincorporated Yamhill County. Adjacent county zoning is LI. Contact Yamhill County to determine if additional county regulations apply. A copy of the application will be routed to Yamhill County Planning for comments.
- A marijuana grow site was mentioned as a potential tenant for the site. Please note that a medical marijuana grow site requires a conditional use permit in the BI & AO overlay/subdistrict and recreational producers are prohibited. See Table 15.305.030 Zoning use table – use subdistricts.

Engineering Comments

Street: Commerce Parkway is classified as a local commercial/industrial street in the Transportation System Plan, however, the street is private. Information regarding existing public right-of-way and cross-sections for local commercial/industrial streets can be seen below.

Roadway	Functional Classification	Existing Right-of-way	Existing Pavement Width	Minimum Right-of-way	Minimum Pavement Width	Typical Cross-Section (per Transportation System Plan)
	Local Commercial/ Industrial (55-feet to 65-feet)			58-feet	34-feet	<ul style="list-style-type: none"> • 1-foot from back of walk to right-of-way • 5-foot sidewalk • 5.5-foot planter* • 0.5-foot curb • 17-foot travel lane • 17-foot travel lane • 0.5-foot curb • 5.5-foot planter* • 5-foot sidewalk • 1-foot from back of walk to right-of-way

*5-foot minimum per NMC 15.505.030(G)(8)

It was noted in the meeting that the applicant will be required to install sidewalk along the building frontage on Commerce Parkway.

Wastewater: There is an 15-inch wastewater line along the east side of Commerce Parkway. A lateral will be required for the proposed development. Connection for the new building will need to be made

via a manhole. The applicant indicated that an existing lateral exists, the lateral will need to be verified and meet City standards.

Water: There is an 8-inch ductile iron water line along Commerce Parkway. A new meter will likely be required for the proposed development. Capacity and fire flows will need to be verified for proposed use. The applicant indicated that an existing lateral exists (no meter), the lateral will need to be verified and meet the City's standards. All TVF&R requirements will need to be met.

Stormwater: There is a 15-inch stormwater line along E 9th Street. If more than 500 sqft of net new impervious surface area is created, the quantity and quality of stormwater will need to be treated and a stormwater report will be required per the Public Works Design and Construction Standards.

Erosion and Sedimentation Control (ESC): The City will require an ESC permit.

Other Utilities: There are no overhead utilities along Commerce Parkway along the property frontage. Poles and associated lines that are moved will need to be undergrounded. Any new connection to the property/properties will need to be undergrounded. See NMC 15.430.010 for exception provisions.

Tualatin Valley Fire and Rescue Comments – see attached.

Questions from the Applicant:

1. We would like to confirm that the layout shown (lot areas, dimensions, etc.) is acceptable, given the requirements of the City of Newberg Development Code.
2. Please confirm the architectural requirements for the building.
3. Please confirm the building setbacks and how they will be applied to these lots.
4. Please confirm the City review procedure type and the different land use applications required.
5. Please let us know if there are any other issues or site constraints of which you are aware beyond those associated with steep slopes and natural resources.

These issues were addressed at the meeting and in the provided notes.

6. Please confirm the requirement of a geotechnical study.

If the applicant is proposing to use infiltration as part of the stormwater facility, a geotechnical study concerning infiltration rates will be required. The building department may have other requirements/needs for a geotechnical study.

7. Please let us know if a traffic study is required.

A traffic study is required if 40 or more PM peak hour trips are being created. Since all tenants are not know, please develop a realistic range (min-max) of estimated trips. The City is now using the 10th Edition ITE Trip Generation Manual.

8. Please let us know if FAA approval will be required, and if so, what the building height limitations are on this site?

Yes FAA and Oregon Department of Aviation approval is required. Please provide documentation of their approval with the application submittal and address the applicable requirements found in 15.340 of the Newberg Development Code.

9. Please let us know if any additional studies or analyses are necessary.

If the applicant is proposing to use infiltration as part of the stormwater facility, a geotechnical study concerning infiltration rates will be required. The building department may have other requirements/needs for a geotechnical study.

A soils report is required if more than 1500 psf.

10. Does the fire department have any issues with the planned layout?

A fire access road around the north side (back) of the building may be needed. Please provide a fire truck circulation plan with the application submittal.

11. A rain garden per City of Newberg Detail 457 is proposed for stormwater management. The net new impervious area is less than 15,000 square feet. For this site, can the City of Newberg LIDA sizing form be used for sizing of the stormwater facility?

No, the City's LIDA sizing form cannot be used per Section 4.9.1 (III).

12. A fire hydrant currently existing near the site. Will fire flow calculations be required? Will a fire flow test be required?

Yes, a fire flow test will be required. Follow guidelines set forth by TVF&R.

13. Are fire sprinklers required for the new building?

Sprinkler requirements vary by use, floor area, and other factors.

14. An access, utility, and open space easement existing on the site. This appears to match the stream corridor. All improvements proposed to avoid encroachment of this easement. Are there any other natural resource overlays or setbacks that we should be aware of?

It's the recommendation of the City that an offset be provided between the proposed stormwater facility and the stream corridor overlay. Stormwater facility maintenance activities are not allowed to occur from within the stream corridor overlay per NMC 15.342. The City may require a delineation of the stream corridor overlay, to ensure that private stormwater maintenance activities do not occur from within the stream corridor overlay.

Please use the City's stream corridor overlay layer from GIS to verify the delineation of the stream corridor indicated in the plans.

Fees:

- Planning: Type 2 design review application fee (0.6% of total project cost, plus 5% technology fee)
- Engineering: erosion control permit fees
- Building permit fees: Based on valuation of building
- System development charges (city/school dist.)

General comment: These pre-application notes are preliminary, and may not cover all of the development issues or requirements for the project. When we have received a complete application and conducted a full review we may determine that there are additional requirements for the project.



April 12, 2018

Cheryl Caines
Senior Planner City of Newberg
Community Development Department
414 E. First Street
Newberg, Oregon 97132

**Re: 1000 Commerce Parkway, Proposed 12,000 square foot Commercial building.
Tax Lot I.D: 03S02W 00700**

Cheryl,

Thank you for the opportunity to review the proposed site plan surrounding the above named development project. These notes are provided in regards to the pre-application meeting held on **April 4, 2018**. There may be more or less requirements needed based upon the final project design, however, Tualatin Valley Fire & Rescue will endorse this proposal predicated on the following criteria and conditions of approval.

FIRE APPARATUS ACCESS:

1. **FIRE APPARATUS ACCESS ROAD DISTANCE FROM BUILDINGS AND FACILITIES:** Access roads shall be within 150 feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building or facility. An approved turnaround is required if the remaining distance to an approved intersecting roadway, as measured along the fire apparatus access road, is greater than 150 feet. (OFC 503.1.1) *There may be additional fire access requirements if building is used for high-pile storage (OFC 503.1.3)*
2. **DEAD END ROADS AND TURNAROUNDS:** Dead end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround. Diagrams can be found in the corresponding guide that is located at <http://www.tvfr.com/DocumentCenter/View/1296>. (OFC 503.2.5 & D103.1) **Please dedicate an approved turnaround in the parking area for fire apparatus.**
3. **FIRE APPARATUS ACCESS ROAD WIDTH AND VERTICAL CLEARANCE:** Fire apparatus access roads shall have an unobstructed driving surface width of not less than 20 feet (26 feet adjacent to fire hydrants (OFC D103.1)) and an unobstructed vertical clearance of not less than 13 feet 6 inches. (OFC 503.2.1 & D103.1)
4. **NO PARKING SIGNS:** Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles and 20 feet of unobstructed driving surface, "No Parking" signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Signs shall read "NO PARKING - FIRE LANE" and shall be installed with a clear space above grade level of 7 feet. Signs shall be 12 inches wide by 18 inches high and shall have red letters on a white reflective background. (OFC D103.6)
5. **NO PARKING:** Parking on emergency access roads shall be as follows (OFC D103.6.1-2):
 1. 20-26 feet road width – no parking on either side of roadway
 2. 26-32 feet road width – parking is allowed on one side
 3. Greater than 32 feet road width – parking is not restricted**Note:** For specific widths and parking allowances, contact the local municipality.

6. **PAINTED CURBS:** Where required, fire apparatus access roadway curbs shall be painted red (or as approved) and marked "NO PARKING FIRE LANE" at 25 foot intervals. Lettering shall have a stroke of not less than one inch wide by six inches high. Lettering shall be white on red background (or as approved). (OFC 503.3)
7. **FIRE APPARATUS ACCESS ROADS WITH FIRE HYDRANTS:** Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet and shall extend 20 feet before and after the point of the hydrant. (OFC D103.1)
8. **TURNING RADIUS:** The inside turning radius and outside turning radius shall not be less than 28 feet and 48 feet respectively, measured from the same center point. (OFC 503.2.4 & D103.3)
9. **ANGLE OF APPROACH/GRADE FOR TURNAROUNDS:** Turnarounds shall be as flat as possible and have a maximum of 5% grade with the exception of crowning for water run-off. (OFC 503.2.7 & D103.2)
10. **ANGLE OF APPROACH/GRADE FOR INTERSECTIONS:** Intersections shall be level (maximum 5%) with the exception of crowning for water run-off. (OFC 503.2.7 & D103.2)
11. **AERIAL APPARATUS OPERATING GRADES:** Portions of aerial apparatus roads that will be used for aerial operations shall be as flat as possible. Front to rear and side to side maximum slope shall not exceed 10%.
12. **GATES:** Gates securing fire apparatus roads shall comply with all of the following (OFC D103.5, and 503.6):
 1. Minimum unobstructed width shall be not less than 20 feet (or the required roadway surface width).
 2. Gates shall be set back at minimum of 30 feet from the intersecting roadway or as approved.
 3. Electric gates shall be equipped with a means for operation by fire department personnel
 4. Electric automatic gates shall comply with ASTM F 2200 and UL 325.
13. **ACCESS DURING CONSTRUCTION:** Approved fire apparatus access roadways shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. Temporary address signage shall also be provided during construction. (OFC 3309 and 3310.1)
14. **TRAFFIC CALMING DEVICES:** Shall be prohibited on fire access routes unless approved by the Fire Marshal. (OFC 503.4.1). Traffic calming measures linked here: <http://www.tvfr.com/DocumentCenter/View/1578>

FIREFIGHTING WATER SUPPLIES:

15. **COMMERCIAL BUILDINGS – REQUIRED FIRE FLOW:** The minimum fire flow and flow duration shall be determined in accordance with OFC Table B105.2. The required fire flow for a building shall not exceed the available GPM in the water delivery system at 20 psi residual. (OFC B105.3)
Note: OFC B106, Limiting Fire-Flow is also enforced, except for the following:
 - The maximum needed fire flow shall be 3,000 GPM, measured at 20 psi residual pressure.
 - Tualatin Valley Fire & Rescue does not adopt Occupancy Hazards Modifiers in section B105.4-B105.4.1
16. **FIRE FLOW WATER AVAILABILITY:** Applicants shall provide documentation of a fire hydrant flow test or flow test modeling of water availability from the local water purveyor if the project includes a new structure or increase in the floor area of an existing structure. Tests shall be conducted from a fire hydrant within 400 feet for commercial projects, or 600 feet for residential development. Flow tests will be accepted if they were performed within 5 years as long as no adverse modifications have been made to the supply system. Water availability information may not be required to be submitted for every project. (OFC Appendix B)

FIRE HYDRANTS:

17. **FIRE HYDRANTS – COMMERCIAL BUILDINGS:** Where a portion of the building is more than 400 feet from a hydrant on a fire apparatus access road, as measured in an approved route around the exterior of the building, on-site fire hydrants and mains shall be provided. (OFC 507.5.1)
 - This distance may be increased to 600 feet for buildings equipped throughout with an approved automatic sprinkler system.
 - The number and distribution of fire hydrants required for commercial structure(s) is based on Table C105.1, following any fire-flow reductions allowed by section B105.3.1. Additional fire hydrants may be required due to spacing and/or section 507.5 of the Oregon Fire Code.
18. **FIRE HYDRANT DISTANCE FROM AN ACCESS ROAD:** Fire hydrants shall be located not more than 15 feet from an approved fire apparatus access roadway unless approved by the Fire Marshal. (OFC C102.1)
19. **REFLECTIVE HYDRANT MARKERS:** Fire hydrant locations shall be identified by the installation of blue reflective markers. They shall be located adjacent and to the side of the center line of the access roadway that the fire hydrant is located on. In the case that there is no center line, then assume a center line and place the reflectors accordingly. (OFC 507)
20. **FIRE DEPARTMENT CONNECTION (FDC) LOCATIONS:** FDCs shall be located within 100 feet of a fire hydrant (or as approved). Hydrants and FDC's shall be located on the same side of the fire apparatus access roadway or drive aisle, fully visible, and recognizable from the street or nearest point of the fire department vehicle access or as otherwise approved. (OFC 912.2.1 & NFPA 13)
 - Fire department connections (FDCs) shall normally be located remotely and outside of the fall-line of the building when required. FDCs may be mounted on the building they serve, when approved.
 - FDCs shall be plumbed on the system side of the check valve when sprinklers are served by underground lines also serving private fire hydrants.

Note: May need to move a fire hydrant to within 100' of proposed FDC

BUILDING ACCESS AND FIRE SERVICE FEATURES

21. **EMERGENCY RESPONDER RADIO COVERAGE:** In new buildings where the design reduces the level of radio coverage for public safety communications systems below minimum performance levels, a distributed antenna system, signal booster, or other method approved by TVF&R and Washington County Consolidated Communications Agency shall be provided. (OFC 510, Appendix F, and OSSC 915) <http://www.tvfr.com/DocumentCenter/View/1296>.
 - Emergency responder radio system testing and/or system installation is required for this building. Please contact me (using my contact info below) for further information including an alternate means of compliance that is available. If the alternate method is preferred, it must be requested from TVF&R prior to issuance of building permit.
 - Testing shall take place after the installation of all roofing systems; exterior walls, glazing and siding/cladding; and all permanent interior walls, partitions, ceilings, and glazing.
22. **KNOX BOX:** A Knox Box for building access may be required for structures and gates. See Appendix B for further information and detail on required installations. Order via www.tvfr.com or contact TVF&R for assistance and instructions regarding installation and placement. (OFC 506.1)
23. **FIRE PROTECTION EQUIPMENT IDENTIFICATION:** Rooms containing controls to fire suppression and detection equipment shall be identified as "Fire Control Room." Signage shall have letters with a minimum of 4 inches high with a minimum stroke width of 1/2 inch, and be plainly legible, and contrast with its background. (OFC 509.1)
24. **PREMISES IDENTIFICATION:** New and existing buildings shall have approved address numbers; building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property, including monument signs. These numbers shall contrast with their background. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 1/2 inch. (OFC 505.1)

If you have questions or need further clarification, please feel free to contact me at **503-259-1510**.

Sincerely,

Jason Arn

Jason Arn
Deputy Fire Marshal II

Email jason.arn@tvfr.com

Cc: File

A full copy of the New Construction Fire Code Applications Guide for Commercial and Multi-Family Development is available at <http://www.tvfr.com/DocumentCenter/View/1296>